Fifteenth Year of Publication

Industrial FINISHING

Reg. U. S. Pat. Office

Devoted to Product Finishing in the Factory

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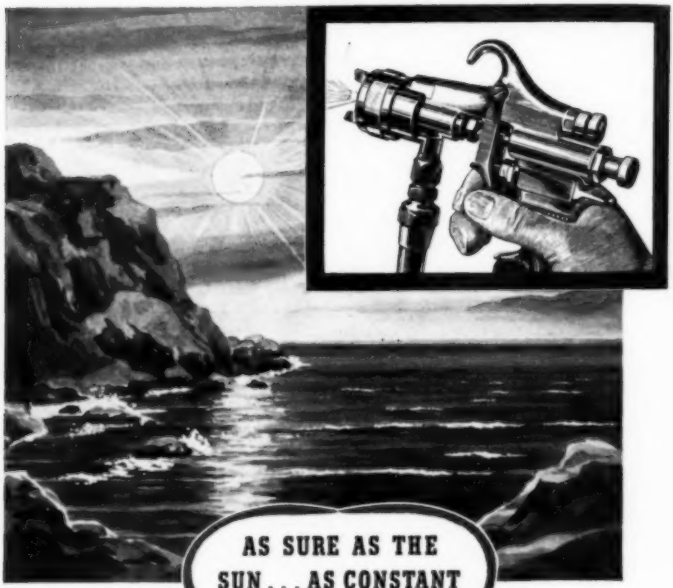

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Letters from Readers

OF INDUSTRIAL FINISHING

These letters (and many others) were answered recently by the editorial department, but are published here to reveal certain interesting trends of desire and activity in the industry, and to encourage additional inquiries, comments and suggestions. Further information about any of them can be obtained by writing this office.—Editor.

Dri-Dark Rubbing Compound

On page 55 of January issue of INDUSTRIAL FINISHING, we notice a brief article about Dri-Dark Rubbing Compound. We would like to get in touch with the manufacturer.—O. Furn. Co. (Living Room and Library Tables).

It is V. J. Dolan & Co., Chicago, Ill.—ED.

Dipping Machines

We would be pleased to receive a list of dealers and manufacturers of dipping equipment. We cannot locate any reference to this type of equipment in your last few issues.—Z. Mfg. Co.

On page 64 of April issue of INDUSTRIAL FINISHING, we find that the A. & T. Co. inquires about finishing machinery. We would appreciate your giving us the name and address of this concern, as we make the types of machinery in which they are interested.—Apex Products Corp.

"Colofuse"

A new finish has recently appeared on the market known as "Colofuse." It is applied to wood turnings, shapes, etc., and gives something of the appearance of marble, and the sheen, quality and durability of bakelite. Can you tell us who is the manufacturer of this material, where a supply can be secured, how it is applied, temperature used in baking, etc.?—H. S. Co. (Brush Handles).

We have no specific information on this, as yet. Can some reader please tell us something about it?—ED.

Portable Mixer

Will you please furnish us the name of the manufacturer of the portable mixer, with motor attached, shown on page 63 of INDUSTRIAL FINISHING for February, 1939?—A. Q. Co. (Store Fixtures).

It is The Mixing Equipment Co., Rochester, N. Y.—ED.

Exterior Finish For Stone and Marble

We notice on page 65, of April, 1939 issue of INDUSTRIAL FINISHING, a request from O. Marble Corp. for an exterior finish for stone and marble, and we have an idea that perhaps one of our products might suit them.

At the present time this product is under test by one of the large creamery companies as a protection against wear and tear, and the action of lactic acid on their concrete floors. A report from them informs us that although the application on

School Furniture Brown, Walnut, Mahogany

We have "all the answers" and *all* the *quality* products to produce the School Brown finishes.

For samples and information on these, and all other new finishes, write —

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- Spark-proof, Splash-proof.
- No Fire or Explosion Hazard.
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- Sizes for Every Requirement.

Pneumix Type AB is illustrated. This is a clamp type, direct drive mixer, especially designed for use on 5-gallon batches. It is standard with a ⅜-in. chromium-plated or stainless steel shaft, 12-in. long, fitted with a 3-in. triple blade propellor of chromium-plated bronze or stainless steel.

Write for Free Data Folder

ECLIPSE AIR BRUSH CO., Inc.

Makers of Low Pressure Spray Equipment

392 PARK AVE. NEWARK, N. J.

the concrete floor has been in use for six months, so far it shows no signs of wear.

We have never received such an inquiry as is made in your magazine and do not know whether our material would answer their purpose. However, we will be glad to furnish them with a sample, so they can test it.—Kelsan Products.

Vacuum Lifter

We would esteem it a favor if you could amplify the description, given in your January, 1929 issue, page 84, of the vacuum device for lifting clean sheets. If you can advise us particularly as to the makers, we should be very grateful.—S. M. I. London, England.

We suggest you write the manufacturer whose name and address is given in the article, namely: Bastain-Blessing Co., 242 E. Ontario St., Chicago, Ill.—ED.

"Qualasole"?

The writer would appreciate receiving information on a finishing product called "Qualasole," which I believe is put out by the Belles Co. —M. H. & E.

We can find no information on this product. Does some reader know anything about it, or the name and address of the manufacturer? —ED.

Automatic Spray Machine

Will you kindly send me complete information on the automatic spray machine F-3614, as described and illustrated on page 62 of February issue of INDUSTRIAL FINISHING?—T. C. Co. (Wood Preservatives).

It is manufactured and sold by Paasche Airbrush Co., Chicago, Ill. —ED.

Constant Viscosity Instrument?

Can you give us any information regarding an instrument which keeps a constant check on the viscosity of material in dipping tanks? One of our customers tells us he has heard that an instrument has been developed which records the viscosity of finishing material in a dipping tank and also automatically releases

Are Your Finishing Costs Too High?

NEW Paasche AIRBRUSH ASSURES YOU BIGGER PROFITS NOW!

Benefit from the manufacturing experience of these leaders:

CLOCKS: "Paasche High Production Airbrushes made possible, savings in labor and material amounting to $7,053.00 a year."

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This line is recommended to eliminate one coat without sacrificing your finish — because of the heavy film imparted.

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— CORP. —
127 Maiden Lane, New York, N. Y.
Factory — Rahway, N. J.

a flow of solvents into the tank when the viscosity becomes too heavy. We are interested in this.—Z. Co.

We do not know of such an instrument at present. Can some reader supply information on this?—ED.

One thing we have admired and noted in your publication, Industrial Finishing. You have acted as an intermediary in many lines, to foster and encourage cooperation. You have served as a Clearing House for ideas and new processes and products. We know many firms owe you a sincere vote of thanks for your kind assistance.

One of Dale Carnegie's recent newspaper columns was headed: "How to earn $5,000 a year." It went on to say you would never do it by pushing a pencil in routine work, nor in working a machine that required no thought. What was needed was "Constructive Imagination" —something every man has individually, and which can make him worth $5,000 a year and upward! His advice followed the principles your magazine fosters and encourages in men—to develop initiative and original methods of doing work of a new or an improved type.—Chas. V. Sparhawk, Sparhawk Co.

"Amiglaze" Discovered

Referring to inquiries published about "Amiglaze" in February (page 7) and April (pages 5 & 7) issues of INDUSTRIAL FINISHING, we have discovered "Amiglaze" may be purchased from Sanitary Products & Paper Co., 33 Franklin St., Buffalo, N. Y. This is a division of Crown Zellerbach Corp. Evidently the old Amiglaze Co., Inc., has gone out of business and the product is now handled by the above mentioned firm.—Kittinger Co.

School Furniture Brown

Please send us a copy of the April, 1939 issue of INDUSTRIAL FINISHING, wherein appears an article by R. E. Casey entitled "Finishing Oak Chairs." During the past week we have received several inquiries for samples of the different types of

(Continued on page 67)

Save LABOR-Add BEAUTY-
WITH
Triplex Stain

Triplex Stain gives beautiful results on Maple, Gum, Poplar, etc. In addition to producing a more attractive appearance, it actually saves from one to three operations. May be sprayed, dipped or brushed. Sealer may be applied over it without waiting as it will not rot lacquer finishes. Triplex is available in clear, bright shades of all desired colors.

The background color penetrates the wood, giving permanence of color. The second ingredient permits high-lighting and wiping but avoids a "painty" appearance. The third ingredient increases uniformity.

Only Triplex Stain produces a high degree of uniformity together with a rich, warm undertone in one application.

● Triplex will speed up your finish and enable you to secure greater economy, attractiveness and durability. Submit panels or carvings from your regular production and mention your color requirements for a demonstration of Triplex Stain.

JAMES B. DAY & CO.

CHICAGO

Hot Lacquer

Specially-formulated, high-solids lacquers are sprayed hot to produce a smooth heavy-bodied durable finish on industrial products

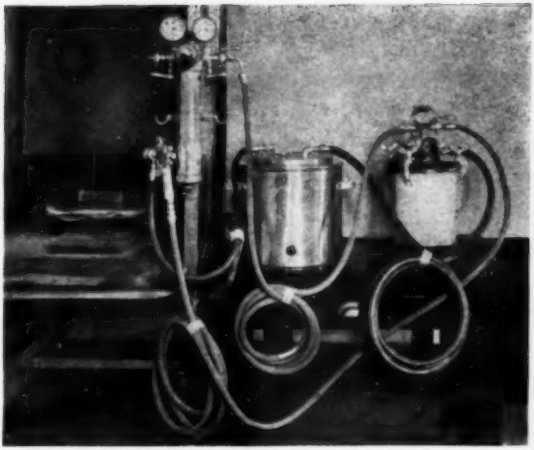
THE FIRST few months this year have seen a development in the finishing industry which promises to be as important and far reaching as was the discovery of low-viscosity lacquers. The development referred to is the application of nitrocellulose lacquer at temperatures substantially above room temperature. For the sake of convenience this development shall be referred to herein as "Hot Lacquer."

The principle of applying high temperature lacquers is soundly conceived. It is founded on the discovery that, like many viscous materials lacquers reduce sharply in viscosity at elevated temperatures. This reduction in viscosity is so rapid that by applying this principle it is now possible to spray lacquer having the body of varnish or enamel.

Since the advent of lacquers into the industrial finishing field some 15 years ago, formulators have been searching constantly for the ideal finishing material. The properties of this hypothetical finish should be essentially a combination of the desirable features of varnish and lacquer. To be more specific, this ideal finish should possess the drying speed, hardness and print resistance of lacquer, together with the full body and flow of varnish. Now, for the first time, here is a technique and formulation which is probably the nearest practical approach to this so called ideal finish. It is so phenomenal that applications may be found which will extend its use far beyond the fondest hopes of those interested in the finishing industry.

Merits of Hot Lacquer

To touch briefly on some of the outstanding merits of hot lacquer, it should be noted that by spraying much higher solids it is now possible to apply, in one spray operation, the equivalent film produced by two coats sprayed at atmospheric temperature. Furthermore, by the use of higher viscosity nitrocellulose it is possible to apply films having toughness and durability far greater than is now possible with present lacquers. By combining these two principles of formula-



An outfit for heating and spraying lacquer. A rotary pump for circulating the hot lacquer must be added.

BY C. W. SIMMS
General Manager of Wabash Products Co.

tion, lacquers can be made that have more body and greater toughness.

These features are of great interest to manufacturers of furniture and many other industrial products. (Not the least important general application of hot lacquer, is that of lacquers formulated with solids sufficiently high to produce finishes of equal appearance to those produced with varnish). Perhaps the most obvious and outstanding favorable property of hot lacquer is its exceptional flow, particularly on furniture. The flow is so exceptional that "flat and semi-gloss" lacquers actually have the appearance of having been rubbed.

In Production Operations

It is significant to note that not only has the application of hot lacquers been extensively tested on a laboratory scale, but also it has been used commercially on a production basis. Really, the application of hot lacquers is absolutely sound, not only from the theoretical standpoint but also from the practical, as evidenced by numerous successful applications now in production.

Equipment for Heating and Spraying Hot Lacquers

Let us consider the problem of suitable equipment for the application of lacquer at elevated temperatures. From the very conception of the idea, it was obvious that in order to make the idea thoroughly practicable, equipment would have to be developed which would function with the same ease and flexibility as that now in use. Naturally, it is important to have equipment available which simply supplements present finishing-room equipment, and at the same time represents the minimum in cost.

Fortunately, reasonably priced apparatus has been designed and is now available, connecting directly to present standard spray installations. *This equipment has been designed to furnish lacquer continuously at the proper rate of flow, at a temperature within reasonable limits, and at pressures within the limit of the system. The operation of this ap-*

paratus functions with equal success whether used continuously or intermittently.

Heat is supplied by a thermostatically-controlled steam or hot water bath through which is wound a length of copper tubing sufficient to bring the lacquer to a constant temperature with the water, at a rate of flow consistent with the rate of consumption. Cooling of the material in the fluid hose to the spray gun is prevented by a simple circulating system which keeps a quantity of material in excess of the quantity necessary for spraying, at spraying temperature, moving past the spray gun at all times. This equipment is assembled from

Spray gun with new twin fluid tube and new air cap for spraying hot lacquers.

standard parts and is inexpensive, as compared with various suggested methods which would require specially-built elaborate equipment.

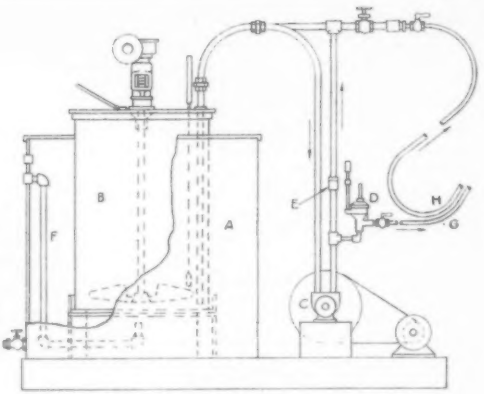
The very name "hot lacquer" might cause some concern about fire hazards. In designing the equipment this factor was considered, with the result that every phase is absolutely safe. Since the lacquer is cooled to room temperature by the time it has traveled a few inches from the spray gun, the spraying of hot lacquers offers no more hazards than those present in the cold application of lacquer.

Formulation of Hot Lacquers

The formulation of lacquers to be applied hot is different from those of cold lacquers and requires close familiarity with the problem. Lacquers made to be applied at room temperature cannot be successfully sprayed hot in their present form. They must be formulated especially for use at elevated temperatures. If an attempt is made to spray ordinary lacquers at elevated temperatures the results obtained may be disappointing and may lead one to the conclusion that the process is no good.

By reason of the fact that, per unit of solids, the reduction in viscosity per degree change in temperature is greater for clear than for pigmented lacquers, it is apparent that clear lacquers of the furniture type will show the most striking results.

Since there are many different types and grades of furniture produced, it naturally follows that a wide variety of finishes are in common use. For this reason hot lacquer is admirably suited for use on furniture, since it permits such wide limits in formation—a much wider range than is possible with lacquers for use at room temperature. As an illustration of this point, several specific examples are given as follows:



Here is a hot-lacquer circulating outfit wherein the material container B, is inside a hot-water tank A, heated by steam line F. Pump C withdraws the heated lacquer and delivers it through regulator D and hose G to spray gun. The return line from gun passes through hose H, back to material tank.

Lacquer of 40% Solids

Lacquers made with low-viscosity nitrocellulose are sprayable at solids of approximately 40%, as compared with around 25% at present. The advantages of this type are easily seen. The equivalent of two normal coats are applied in one operation and the resulting film is much smoother than present finishes due to the exceptional flow of hot lacquers. The quality of the film formed is identical in all its properties, since there has been no change in the solid constitutents or in their relative proportions.

On first thought it might seem that there is a discrepancy in the figures when I say that one coat of 40% lacquer, sprayed hot, will build a film equal to or greater than two coats 25% lacquer sprayed cold. On the contrary, this is true since the lacquer has returned to room temperature by the time it reaches the object being coated and has thus increased very greatly in viscosity. It is easily seen, therefore, that with this condition prevailing, not only do more solids actually reach the object, but the material has increased so very much in thickness that much more material is applied without danger of sagging.

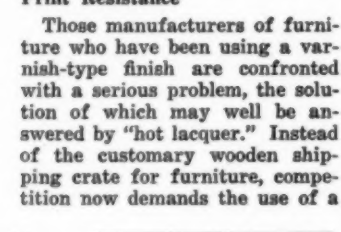
Perhaps the most interesting application of hot lacquer involves the use of high-viscosity nitrocellulose instead of the low-viscosity types. It has always been known that the toughness and durability of a lacquer is proportional to the viscosity of the nitrocellulose used—everything else being equal. In other words, a lacquer made with ½-second nitrocellulose can be greatly improved by the substitution of an equal weight of 5-second nitrocellulose for the ½-second grade. While this has been a known fact for some time, it has been impractical due to the fact that this substitution would produce viscosities far too great for spraying. With the technique of spraying lacquer hot, however, this substitution can be made.

It is obvious that lacquer for use on high-grade furniture, radio

cabinets, etc., will be greatly improved in quality. In addition to increased durability, there is a marked improvement in flow, equal ease of application and reduced cost, which are sufficient reasons to warrant considering the adoption of hot lacquers in the furniture industry.

Quick Drying; Heavy Body; Print Resistance

Those manufacturers of furniture who have been using a varnish-type finish are confronted with a serious problem, the solution of which may well be answered by "hot lacquer." Instead of the customary wooden shipping crate for furniture, competition now demands the use of a corrugated paper carton. The use of this carton has brought untold grief from the standpoint of "printing." The answer to this, of course, is lacquer, but ordinary lacquer would not build enough body and was therefore prohibitive. With hot lacquer, films have been applied in production which have all the body and flow of varnish, but with the hardness, speed of drying and print resistance characteristic of lacquer.



This hot-lacquer circulating outfit has a regular mixing tank B, an air-motored paint-circulating Pump C, and an electric hot-water heat exchanger D, a hot-water circulating pump F, a pipe line Y to spray gun, and a return pipe line X from spray gun. Also, adjustable temperature controller A, water immersion unit E, hot water supply line H. The spray gun is fitted with a material circulating connection, with shut-off valve.

In connection with furniture lacquers it is interesting and significant to note that hot lacquers require substantially less flattening agent to produce the same degree of flattening that is obtained with ordinary flat lacquers. Since flattening agents are adulterants for the lacquer and actually weaken the film, it can be seen that this factor alone will give more desirable properties to the films produced with the hot lacquer technique.

Pigmented Lacquers

In the case of pigmented lacquers, for application to either wood or metal, practically the same merits apply as those pointed out for clear lacquers. Reduction in the number of spray coat applications, improved flow resulting in less rubbing, as well as reduced cost per unit of film built—these features have caused several automotive manufacturers to place hot lacquers on their production lines.

It is interesting and important to note that the use of hot lacquer will not increase costs. Several factors enter into this angle, but when considered from the standpoint of cost per unit of film thickness produced, reduction

of number of coats required, reduction in amount of volatile solvents used, lower cost of materials due to the use of high-viscosity nitrocellulose and reduction in rubbing cost, it can be seen that there is something to be gained.

Supplementary Notes

To clarify a few points which the Editor has asked about in connection with this article, I might add the following:

The rapid cooling of the hot lacquer in the spray cone is brought about by contact with air at atmospheric temperature, as well as by the cooling effect of the evaporating solvents. (Incidentally, the idea of using heated air was thoroughly tested but found to be of no value, since upon expansion through the spray gun nozzle, it cooled to room temperature practically the instant it left the orifice). Since this drop in temperature in the spray cone, and the resulting increase in viscosity of the applied lacquer may be very great when spraying lacquers at high temperatures, and thus hinder the flow, it is necessary to compensate by using correctly balanced solvents in the formulation.

We have found that the expected difficulties with regard to flow, in this respect, are entirely eliminated when care is used in selecting a suitable solvent mixture for the spraying temperature. It is mainly to this fact that I am referring in the paragraphs entitled "Formulation of Hot Lacquers." It would be possible to use much the same type of solvent mixture for cold application, and thus get as good flow, if it were not for the fact that the tendency to run and sag would be entirely too great. You understand, of course, that there is no tendency for sagging with hot lacquer due to the rapid increase in viscosity by the time the lacquer actually hits the work.

It is our opinion that the application of hot lacquer probably requires even less skill than the application of cold lacquers, due to the lessened tendency for sagging. With proper spray caps and tips on the spray guns, we have found no more tendency toward over-spray than is prevalent with cold lacquers. This is probably due to the fact that the film remains open so much longer in the case of hot lacquers and can thus redissolve any over-spray.

Prize winning container design in the 1938 All-American Package Competition . . . cream colored lettering against varicolored tile background in which brown and buff colors predominate. Photograph from "Modern Packaging" magazine. Ultra Chemical Works, Paterson, N. J.

If you have ordered a finishing material and specified that it is to be exactly like a previous shipment or sample from the same company, that is what you will probably get. If it doesn't work the same, check your local shop conditions and all methods that may affect its performance. Forget about sending it out for chemical analysis, or demanding the formula from the manufacturer. A few simple tests will reveal how it compares with your retained sample of a previous shipment of material.

Uniformity in Purchased Fi

A COMMON thorn in the flesh of some producers and users of organic finishing materials is the matter of non-uniformity, real or fancied; in consecutive batches of material. The term "fancied" is used advisedly because, in the event of serious trouble in the finishing room, especially from a cause which is not apparent or within the scope of the finisher's control, there is sometimes a temptation to blame non-uniformity of the finishing material. Nor is there often any element of injustice in this practice. It is natural for the harried finisher to turn all possible hypothetical stones to get at the root of the trouble and to get his production rolling. In other words, the finisher cares less whose fault the trouble is, than how and when he can overcome it.

Like all stories, the control of uniformity question has two very well defined sides. In this article it is my intention to attempt to discuss both sides of the argument, which usually starts with the finisher's, "This isn't the same as the last lot," and the salesman's, "Those people don't know what they want." As the eminent Frenchman said, when told that a man whom he had praised highly had just publicly denounced him, "Who knows? Maybe we are both wrong."

Check the Other Possible Causes, Too

Non-uniformity in a finishing material, while distinctly detrimental to smooth production operations, is but one of the many items that may contribute to delays and poor work. Atmospheric conditions, compressed air and equipment, storage conditions; cleaning methods, materials and

BY W. T. SMITH

Photo., courtesy of Lilly Varnish Co.

Finishing Materials . . .

equipment (in the case of metal finishing) and moisture content, sanding, nature and handling of preliminary processing, and exposure to foreign substance (waxes, oils, etc.) in the case of wood. Oil drips or smears from machinery, wax from shaper guides, non-sticking agents on the cauls in the glue room, mishandled glue sizing or sponging, and emergency or unauthorized thinning, or other adjustment of the materials themselves—any of these can cause endless gnashing of teeth in the finishing room. All of them, and more can be and have attributed to defective finishing material.

Nor may the producer of the materials go scot free. I have seen a drum of lacquer filled with tiny pieces of filter paper (from a broken paper on the filter press) enter a finishing room in that condition. Barrels of stain have come out ropy; users have received drums of material from which (admittedly) part of the normal ingredients had been omitted; packages have gone out mislabeled; cans of lacquer have been received in which the resin in the formula formed a stiff jelly-like mass in the bottom. But why go on? To err is human. Man still keeps deadly poisons, unlabeled, in his medicine cabinet, and hunts gas leaks with lighted matches.

Finish Manufacturer's Control Routine

In defense of the finish manufacturer, however, let it be said that he puts forth a consistent and conscientious effort, in the form of an elaborate control system, to avoid all possible errors. He retains a small sample from each lot shipped out, to which he will refer immediately on suspicion of any complaint about it.

On samples that pass through this control routine, a number of check tests are made to determine whether or not the current batch conforms with the customer's requirements in viscosity, total solids, flow, drying time, color and gloss. Naturally, the batch is not shipped to the customer unless it does conform, within a narrow margin to samples of former lots of the same material supplied in the past, or to a sample portion of the actual batch which the customer has approved. In the event of a complaint that the material does not function properly, or is different from the last shipment, a reference to the retained samples of all batches shipped will show any actual variation.

Sometimes the manufacturer of finishing materials is placed in a different position by the inflexible axiom that "the customer is always right." Let us assume a hypothetical case wherein a man, not possessing or having access to a rule or scale, orders a machined piece of fine hardwood exactly one foot long. On receiving it and inspecting it by eye, or by comparing it to another piece lying around the shop, or to his recollection of the last such piece, the customer declares it to be ⅛-in. short. The supplier knows the piece was exactly the specified length when it left his establishment, and knows that the prospective user can gauge the length only by the way in which it fits into the structure in which he proposes using it.

Just what should the supplier do in a case like this? What would you do? Take him at his word and glue ⅛-in. to the piece? Enter into an argument with the customer, pack up your rule and take it to his plant and make him swallow his words? Or would you, I wonder, write him a nice letter apologizing for troubling him and state that you were sending a 12-in. piece at once to replace the one he returned?

Analysis of Material; Manufacturer's Formula

A not uncommon recourse on the part of the consumer—in the case of a disagreement with the supplier on the uniformity, or lack of it, of a material—is to send out a sample of the batch in question to a commercial laboratory for analysis. Some concerns even insist on being supplied with the formula of a material they use, in which case they may be supplied with "a formula." An array of proportions of nitrocellulose, esters, hydrocarbons, keytones, resins, oils, etc., etc., would surely be of little value to the average foreman finisher whose boss was yelling for production. Not only that, but it would take a very clever chemist several days to form an opinion as to whether the material in question was made on that formula. Probably it wasn't. Formulas for commercial lacquers are not being distributed about the country for the asking—not even to customers.

There is something intriguing about that magical word "analysis" that captures the attention and interest of the user when occasion arises to question the working properties of a finishing material. An attempt to take a material apart, quantitatively, to see why it doesn't tick, is probably the last thing a manufactuer would consider—and then he wouldn't do it. Like the "proof of the pudding" which "is in the eating," the proof of the finish-

It's easy to see the reason. The product finished with Damaskene—the Original Damaskene Wrinkle Finish—has an appeal that's all its own. It's *smarter*—for Damaskene reproduces the true beauty of the costly damask from which it was patterned—years ago. It's more durable—because Damaskene is "engineered" to meet each specific product. Not only "engineered" in our plant but "engineered" by our technical experts who come to *your* plant to study *your* requirements.

Some manufacturers have refrained from using a wrinkle finish because they felt their equipment inadequate or their experience insufficient. Hundreds of manufacturers—including many of the country's largest—have found Damaskene Wrinkle Finish, with the servicing we make available, the "finishing touch" that adds sales without adding cost. Damaskene will give *your* products the same appeal. May we prove it?

THE ORIGINAL

Damaskene

WRINKLE FINISH

Sold exclusively by Flood & Conklin Mfg. Co., Newark, N. J., and the following divisions: The Palmer-Price Co., The Bigelow Varnish Co., Newark Varnish Works.
Licensed by New Wrinkle, Inc.

Makers of Complete Spray Finishing Systems—Spray Guns—Material Containers—Regulators—Spray Booths —Exhaust Fans—Hose and Connections—Accessories

Our Entire Organization at Your Service

The Thor Model 7 Spray Gun is indicative of the engineering ability and practical experience of the Binks Manufacturing Company. That same experience and ability is at your service in all of your various finishing problems wherever Spray Guns or other spray equipment is used. Our engineers are at your service to discuss your finishing problems and to help you reach the highest point of efficiency in both the application and saving of material.

Write, Phone or Wire for the Binks Representative

The Masterpiece!

BINKS

Binks SPRAY SYSTEMS

THOR MODEL 7 SPRAY GUN

From the beginning, BINKS Thor 7 Spray Gun has been—"The GUN Smart Finishers Have Been Waiting For!" . . . BINKS Thor 7 Spray Gun is a symbol of the leadership of BINKS *Complete* Line of Spray Finishing Equipment.

BINKS MANUFACTURING CO.

3114-40 CARROLL AVE. Phone: Van Buren 4200 CHICAGO, ILL.

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NEW YORK
124-30 Lafayette St.
Phone: Canal 6-4540

SAN FRANCISCO
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Phone: Market 7418

DETROIT
105 E. Baltimore Ave.
Phone: Madison 7287

Philadelphia—Pittsburgh—Cleveland—Milwaukee—Boston—
Los Angeles—Seattle—Windsor, Ontario, Canada

ing material is in the results obtainable with it.

What I want to point out here is that, while, some manufacturers of finishing materials do occasionally make mistakes, their careful controls on both raw materials and finished product reduce the possibility of inconsistent performance to a very low figure, compared to that influenced by a veritable host of variables in conditions of application.

Who is Out of Step?

In some cases the same batch of material may be supplied to several users where it has to contend with contingencies of all kinds—from adverse weather conditions to the sprayman's hangover. Not infrequently a complaint is like the comment of the mother at the parade, "They're all out of step but my boy."

Does the material sag and run more, apparently, than it ever did before? What is the temperature of the material in the supply vessel, as compared to that of the last batch? Is it thinned? If so, by whom and with what? Does it turn gray or show an undue shrinkage? Do you store your filler in a wooden vessel, and are you sure no one added a little linseed oil to your 4-hour filler to make it work more easily? Do you have a lot of orange peel, bubbles or pinholes? Is the sprayman working in a draft? Have you made any changes or improvements in the ventilation of the spray room lately? Is the air supply commensurate in actual supply, in cubic feet per minute, with the pressure shown on the gauge? When were the air channels cleaned and the fluid needle and nozzle replaced in spray gun?

More and more questions could be asked. These are mentioned merely to bring out the point that for almost any possible defect in results, there are usually several possible causes at the scene of application. In view of this fact, it seems hardly fair to place the burden of proof on the manufacturer of the material. He has a reputation to maintain, and leaves no stone unturned to the limit of practicability to avoid shipping out a material which will not perform exactly as the user requires.

In the final installment of this article, the author explains how to check on the uniformity or non-uniformity of different shipments of material, making comparative tests for viscosity, drying time, adhesion, toughness, and other characteristics that are important in the performance and service of the finish.

Waterproofs Stucco and Masonry

"Drigard," manufactured and sold by Drigard Products Corp., 799 7th Ave., New York, N. Y., is a clear liquid that penetrates masonry and waterproofs the surface so that paint can be used over it without becoming discolored or flaking or peeling off. Two applications with a brush are recommended. It deposits waterproofing solids ⅛ to ¼-in. into the masonry.

Illustrated Book Free

The Sherwin-Williams Co., Cleveland, Ohio, has just released a 24-page pictorial and technical report in color, on what is said to be one of the most interesting developments for wide industrial use in paint history. The report is called "From a Cleveland Laboratory." The new product described is S-W Kem Lustral Enamel, a remarkably versatile finish that can be brushed, sprayed, dipped, air-dried or baked, and applied to wood or metal surfaces subject to exterior or interior exposure.

M&W INDUSTRIAL FINISHES

UNIFORM FINISHES WITH SHORT, HIGH BAKES

The new M&W Polydur Synthetic Enamels dry out of dust in a few minutes and give fine, uniform finishes, without discoloration, at short, high bakes.

15 Minutes at 325° F

in the baking oven are all that are needed to obtain excellent results with these "high speed" enamels.

The finish is durable, and is resistant to marring, moisture, heat, and ordinary household chemicals. Recoating can be done immediately if required, and surfaces can be easily retouched or patched.

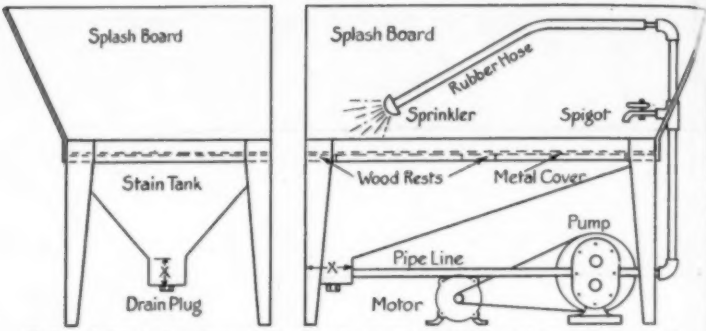
Polydur Enamels are supplied in black, white, and all colors, for spraying or dipping.

AN M & W FINISHING ENGINEER WILL HELP YOU SOLVE YOUR FINISHING PROBLEMS

Maas and Waldstein Co. Newark, N. J.

Factories and Warehouses . . . 1326 Washington Blvd., Chicago . . . 1220 W. Pico Blvd., Los Angeles

Founded 1876 — Producers of Lacquers and other Industrial Finishing Materials



End and front elevations of flow-coating equipment for staining chairs rapidly.

Staining by Flo-Coating

BY T. J. PIRRUNG

IN FURNITURE and chair factories water stains and oil stains are usually applied by dipping, spraying or brushing. There is another method, not so commonly used, which I term "hosing." Some call it "flowing" or "flow coating."

In one plant the comparison of labor and time required for water staining similar chairs, by four different methods, is indicated by the accompanying table. When using oil stain the labor time was in about the same ratio but required the additional work of wiping parts of the chair.

Previous to our development of a suitable outfit for flow coating, as illustrated above, we preferred to use the dipping method because of its low labor cost, but unfortunately dipping tanks to accommodate chairs must be quite large. Our dipping tank measured 42-in. long by 30-in. wide, and 27 gallons of stain were needed to fill it to a depth of 5-in. We produce chairs in a profuse variety of colors and it is only on rare occasions that we have sufficient number of chairs, requiring the same stain, to warrant the preparation of an adequate amount of stain to use the dipping method. The wage scale of spray operators is high, our spray equipment is taxed to its limit on other work and, since brushing requires too much time and labor, we devised the "flow coating" method of applying stain to chairs.

Method of Applying Stain	Minutes of Labor on Each Chair
Dipping	.8
Flowing or Hosing	1.2
Spraying	2.3
Brushing	4.9

Comparison of labor time for staining chairs, using four different methods, as timed in production in one factory.

Stain Continuously Circulated

We replaced our stain dipping tank with a newly designed tank which is considerably larger at the top, converging to a very small area at one end of the sloping bottom, as shown in the accompanying drawing. The tank drains rapidly because of the steep pitch on three sides to that part of the bottom marked *X* in the illustration. Capacity of the area marked *X* is slightly more than one gallon. Leading out horizontally from *X* is a pipe line that connects to a rotary pump which is driven by a ¼-hp. motor. When in operation, the pump withdraws stain from the bottom of the tank (at *X*) and forces it through the hose and sprinkler head, which the operator handles to flow stain rapidly and effectively over each chair placed on the staining deck. The force and volume of stain flowing through the hose and sprinkler head can be cut down to any degree desired by partially opening the spigot shown in the pipe line.

The staining deck, on which a chair rests while stain is being flowed over it with the hose, consists of a perforated sheet-iron cover (divided into two halves) that rests in level position on removable wood supports. This perforated sheet-iron deck is about 3-in. below the top edge of the tank and it is removable to permit of cleaning the tank. The metal deck is made in two halves in order to be easy to handle; it is perforated with ½-in. holes spaced about 1¾-in. apart in both directions. The overflow stain from "hosing" drains through these holes and returns to the tank for recirculation. Removable metal splash boards are located on two adjoining sides of the staining deck, as shown in the drawing.

As little as ¾-gallon of stain will circulate through this outfit, therefore this method of staining chairs removes one of the chief objections to dipping, which requires the use of so much material in the tank; and this method of application is almost as rapid as dip staining.

Design Features of Outfit

In making or ordering one of these outfits for flow coating, it is necessary that the following details be carefully planned and executed.

Make the length and width at the top of the tank at least three times the same dimensions of the article or largest article to be stained—larger if practical. This is necessary in order to prevent stain from splashing beyond the edges of the tank. Make the metal splash boards a few inches higher than the product to be stained. When splash boards are in position they should tilt back at an angle of 20° to 30° from the vertical. Splash boards should be removable and in sections easily handled in order to facilitate cleaning.

Do not attempt to use mesh wire to rest articles on, as stain clings to the crevices and cleaning is difficult. In fact the matter of cleaning is of great importance where stains are frequently changed. All surfaces in the outfit should be smooth so they can be easily handled and washed.

The lowest point of the pipe line that extends from *X* to the pump should be at the point where it connects with *X*, see illus-

tration. Allow as much pitch in this direction as possible in order to insure complete drainage. A drain plug must be located at the lowest level of *X*, which really should have a funnel-shaped bottom. If these construction features are carefully observed in designing and making this outfit, only a few minutes will be required to clean the entire system by circulating hot water or naphtha through it and then wiping all surfaces dry with clean rags. The outfit should be thoroughly cleaned every evening before quitting time and whenever a stain job is completed.

Use a Gear-type Pump

An inexpensive gear type of pump is satisfactory for this outfit. Inasmuch as only two or three gallons of stain need be circulated per minute, it is necessary to use a small pulley on the motor and a large one on the pump to reduce the speed of the pump. Even then the pump will deliver stain at a rate greater than is necessary (an advantage when using some pigmented oil stains that require agitation). Consequently the spigot is opened to reduce the rate of flow at the sprinkler head. The sprinkler head I use is half-spherical in shape, about 2-in. across, and is perforated with about six ¼-in. holes.

Do not place more than five gallons of stain in the tank at any one time. In continuous staining production, add more stain every hour. When using water stains, add about one quart of water every three hours. Oil stains will require more reducer to be added with greater frequency. Oil stains should be tested with a hydrometer and the same specific gravity maintained; otherwise the last article stained will be considerably darker than the first. Spirit stains can not be flowed on with this outfit because they are too volatile; neither can strong ammonia stains, because of the suffocating atmosphere that ensues. If it is desirable to apply fillers by this method it will be necessary to use a different style pump, as the silex and filler will soon ruin a gear type of pump.

Air-Motored Mixer Catalog

A 4-page 8½x11-in. folder cataloguing its complete line of air-motored agitators, both direct and gear driven, has just been published by the Pneumix Division of Eclipse Air Brush Co., Inc., 398 Park Ave., Newark, N. J. Safety features and variable speeds are set forth, together with illustrations of actual installations of these mixers.

Impervious Varnish Co. Changes Personnel and Address

The Impervious Varnish Co. announces election of the following officers and directors: President Edward H. Fay succeeds A. E. Daum, resigned; Vice President, Hugh Prentice; Secretary and Treasurer, Albert H. Braun. Directors: A. E. Daum, E. H. Fay, Hugh Prentice, A. A. Pope and C. W. Pope.

The company has discontinued its Pittsburgh, Pa., office, and all business is being transacted at the plant office in Rochester, Pa. P. O. Box number of 146; telephone Rochester 1085.

Erlenmeyer Represents Maas & Waldstein in Lower N. Y. State

Floyd M. Erlenmeyer, who for the past two years has served as Western New York representative of Maas & Waldstein Co., makers of industrial finishes, Newark, N. J., has been transferred to the southern New York territory by his company. Mr. Erlenmeyer is well equipped to serve users of industrial finishes in his new district, as he has had wide experience in both the manufacture and application of industrial finishes. He will make his headquarters in New York City.

Improved Metal Finishes Now Available

IT IS largely due to the insistent demands of the industrial finisher that such great progress is being made in the development of new industrial paint materials. Several new products, developed or improved during the past year, are especially noteworthy.

For example, the improved hammer-effect enamel. As now formulated, the freshly sprayed cover coat may be followed immediately by the spatter coat, thus approximating the familiar double-spray procedure. This simplified method of operation provides the finisher with an art effect of quantity production possibilities.

Wrinkle enamels, too, have stepped forward. Several interesting new modifications have appeared. For instance, bronze-sparkle, with its elusive not too obvious glint; and aluminum-sparkle, with its bolder scintillation. Newest, youngest of all—and perhaps destined to be most popular—is metallic-one-coat wrinkle. Heretofore the latter finish involved two separate applications.

Metal-with-color lacquers have become more convenient to use. One brand gives the attractive effect commonly called "translucent," with only one spray coat—and it dries with a pleasing luster which needs no clear coat.

Black japans also moved forward with the procession. Of special interest is a new one that gives an extra thick film. Previously, any japan giving a film thickness of over ½-mil was more than good. The new one gives a jet black high-gloss coating that is fully twice as heavy. It is particularly useful for spray work on castings.

Incidentally, while new synthetics and lacquers and art-effect materials are elbowing each other to stay in the spotlight of favor, it is interesting to note that black japans still comprise a sizable part of the industrial paint total.

What industrial users desire in a finish for metal can probably be specified as follows: A material that sprays easily and rapidly; that levels out smoothly; that dries hard quickly; that sticks stubbornly without a primer; and withal is tough and mar-proof. Such a paint material became a reality during the past year . . . . made possible by the advent of the urea-formaldehyde resins.

Enamels of this type are being offered under several brands. Some are outstandingly good. They bake extremely hard in time intervals of from one hour to as little as five minutes, depending on the temperature employed. Oven temperatures may vary from something above 200°F. to as high as 350°F. And any type of modern bake oven will serve—whether direct, indirect, radiant, convective, or conductive. The luster is pleasing. The film is so hard it is thumbnail-proof, but still it is tough. In the white color, it may be baked as high as 300°F. and there is no yellowing.

All these things are known, of course, to the finisher, who is alert. As these new materials are developed, he reads of them in the journal of his craft and he consults the suppliers who have them to offer.—LOUIS NAGEL.

Buffing
LACQUER COATED METAL SURFACES

BY ROBT. S. LEATHER
President, Lea Manufacturing Co.

MANY lacquer-coated metal articles are formed by being stamped or drawn from sheet metal. Where the sheet metal used is a high grade stock having a good surface, and when the forming operations do not upset the metal too much, the lacquer is usually applied without any conditioning or smoothing of the metal surfaces—that is without any buffing or abrading.

A pigmented lacquer of suitable color is applied, followed by a coating of clear buffing lacquer. This is a special type of lacquer having a very hard surface when dry.

After the application of the clear buffing lacquer the article is buffed on a loose muslin wheel, either packed or unpacked, rotating at a speed of 4,000 surface feet per minute. A suitable buffing compound to use on the wheel at this point is S-28.

On articles common to the jewelry trade, the metal surfaces are usually smoothed and prepared for the lacquer by buffing with a composition containing no grease, on a loose buff rotating at about 5,000 surface feet per minute. This gives a light scratch-brush finish which requires no washing or drying; and an excellent surface is produced for the adherence of lacquer.

On this type of goods, where appearance is a greater factor than cost, several coats of clear lacquer are sometimes applied, each coat being buffed with S-28 buffing compound, and the final coat with No. 707 buffing compound. This gives a depth of finish that approaches cloisonne in appearance.

Baked synthetic lacquers do not usually require a clear lacquer covering. They are buffed on a loose muslin buff at 3,500 surface feet per minute, using S-28 or S-30 buffing compound.

EYE APPEAL...

Just as shapliness of limb and grace of contour draw the eye to the human figure, so does a distinctive eye-appealing finish on your product compel attention. It makes an impression that carries on to consummate a sale.

Perhaps your product needs boldness, color, dash . . . . perhaps a modest richness with personality and character.

Our studio can be of service in creating a finish best suited to your product. Write for details.

ROCKFORD VARNISH COMPANY
Manufacturers of Finishing Materials
ROCKFORD • ILLINOIS

NO TAMPERING WITH QUALITY

the S-30 having slightly more cutting properties than the S-28.

Buffing and coloring compositions contain a combination of abrasive powders, greases and waxes. Their production necessitates pouring the molten composition into molds where it cools and solidifies. The abrasive powders absorb a certain percentage of the greases or waxes. An extra amount of grease or wax is added so that the composition, when molten, can be conveniently poured into the mold. This extra, or free grease, is partly deposited upon the work during the buffing operation, necessitating washing and drying, and on many articles hand scrubbing or a cleaning in grease solvent solutions.

Grease-Free Buffing Compound

To overcome this difficulty a special process has been developed for the production of buffing compositions containing no free grease. This process permits the production of compositions differing materially from the ordinary type of buffing and coloring compositions. Carefully balanced binders are used, these having the property of thoroughly incorporating with the abrasive powders in amounts not excessive, but of such a nature and of sufficient quantity to adhere firmly to the buffing wheel, and work efficiently.

Having no free grease to transfer back on the work, the necessity of scrubbing or excessive cleaning is eliminated. Savings are particularly noticeable when work containing contours, ornamentations or filigreed decoration is being buffed, or when finishing such work as drawn shells, which must be handled on small chucks. When the regular type of buffing compound is used, the free grease creeps underneath the chuck and hardens, making a particularly difficult job of cleaning.

An example of this is shown in the following methods where lacquered surfaces on vanity cases, dresser ornaments, and articles of a like nature were buffed by Method A. This method was discarded in favor of Method B, which eliminated the hazardous benzine cleaning and the hand wiping operation.

A lady's compact or vanity case which has a buffed lacquer finish.

Method A

1) Article lacquered, first with an opaque lacquer; then with transparent coat.

2) Buffed with ordinary lime composition.

3) Soaked in benzine.

4) Hand-wiping operation before assembly.

Method B

1) Work given ordinary lacquering treatment, same as in Method A.

2) Buffed with S-28 composition, containing no free grease.

MAT-COTE

A BEAUTIFUL FINISH

Soft as velvet

IT'S WATER WHITE

This durable, easy working metal coater with a rich, beautiful, soft lustre and clear as an open window, can be economically applied by roller coating. Mat-Cote is absolutely colorless and guaranteed "water white." Even the most delicate details and tints of lithography are unaffected by Mat-Cote. Write to us for a sample and complete details . . . No obligation is entailed.

TOUGH JOB HEADQUARTERS

℞ **Prescription Finishes**

Give us your metal coating problem. We guarantee you an answer based on your conditions, and not just a standardized formula.

THE WATSON-STANDARD CO.

Manufacturers of

PAINTS . . VARNISHES . . INDUSTRIAL FINISHES AND LITHOGRAPH COATINGS

FACTORY AND GENERAL OFFICES: PITTSBURGH, PA.
WAREHOUSES: BOSTON · BUFFALO · DETROIT

3) Assembly without benzine or cleaning.

Another instance where compositions containing no free grease were used to decided advantage, occurred in the salvaging of rejected flashlight cases. These cases had been covered with baked synthetic lacquer. They had been rejected by the inspection department because of small bubbles and dust particles. No. 707 composition, containing no free grease, was used on a 10-in. loose-muslin buff rotating at 1800-r.p.m. This procedure cleaned the spots without cutting through the lacquer, and left a very fine high luster.

Rubbing Formula for Lacquered Surfaces

EXPERIENCED furniture and showcase finishers have developed various methods of producing the rubbed finish that gives their work that professional appearance and pleasant "touch" which are so desirable. In our showcase and fixture work, we have been obliged to cut costs and still retain quality of appearance in the finished surfaces. Our formula for economical hand rubbing is as follows:

First, procure these materials and supplies:

1) No. 320A wet-or-dry sandpaper.

2) "Phenoid" dull rubbing compound.

3) "Savosol," No. 5 (cleaning solvent).

4) Deblooming oil.

5) Steelwool No. 3/0.

Mix four parts of "Savosol" with one part of deblooming oil. This is the liquid we use with wet-or-dry sandpaper. The workman dips a wad of clean cotton waste into this mixture and spreads it over about 8-sq.-ft. of surface. Then he sands the wet surface with No. 320A wet-or-dry sandpaper, using a felt-base block or his bare hands, according to his individual preference. Generally the workman prefers to use a block when he is rubbing a large flat surface. He wet-sands the 8-sq.-ft. of area for three minutes, at the end of which time he notices that the sandpaper begins to skid.

Then he takes a handful of No. 3/0 steel wool, dips it into the mixture, squeezes it a little to wring out the excess liquid, picks up some of the rubbing compound with it, and starts rubbing the surface that he has just finished sanding. After three minutes of rubbing the 8-sq.-ft. of surface, he has a remarkably fine rubbed job. Then he wipes the rubbed surface clean with a bit of soft cloth or waste dipped in deblooming oil, and finally follows with a dry-wipe, using a clean soft cloth or wad of waste.

I have been using this method of rubbing lacquered finishes for quite some time and have found it to be entirely successful. The work our showcase factory does is admired and complimented frequently.—A. CAMIS.

Cleaning Materials Reduced in Price

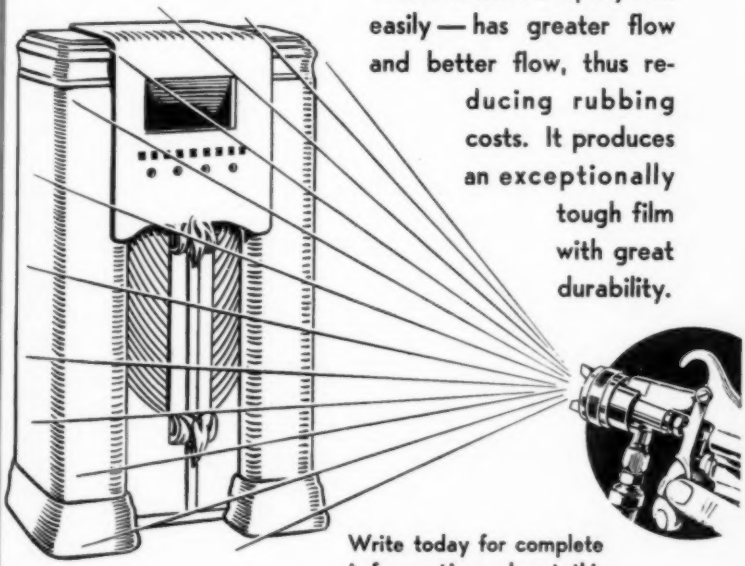
A reduction of 6% to 10% in the prices of industrial and special grades of trichlorethylene and perchlorethylene for dry cleaning and metal degreasing is announced by The R. & H. Chemicals Department, E. I. du Pont de Nemours & Co., Wilmington, Del. The new schedule is effective immediately.

Lower prices on these solvents are consistent with du Pont's policy.

NEW *heated* LACQUER

CUTS COSTS

SIMAX lacquer, formulated specifically for heating, has body equal to varnish. One coat does the work of two coats of cold lacquer, saving time and labor. When heated it sprays on easily — has greater flow and better flow, thus reducing rubbing costs. It produces an exceptionally tough film with great durability.



Write today for complete information about this newest and most important development in finishing.

SIMAX
"THE FINISH THAT LASTS"

WABASH PRODUCTS CO.

TERRE HAUTE, INDIANA

BAKING COSTS

Production Increased With New S-W Kem APPLIANCE White Mono-Bake System

Two Coats—Primer and Enamel—*One* Bake

Sherwin-Williams announces another achievement for the product finishing trade. The Mono-Bake System air-dries the primer 15 minutes, applies the enamel and bakes both in one operation to give HARDNESS, TOUGHNESS and other film characteristics fully equal to standard two-bake systems!

Schedules for the single baking operation of the new Kem Appliance White Mono-Bake System are: 15 minutes at 350°F. or 30 minutes at 300°F.

The product finisher gains these advantages: 1. Lower cost of baking; 2. Savings in handling; 3. Production speeded up; 4. Better adhesion between coats through closer amalgamation of primer and enamel; 5. Film characteristics same as conventional two-bake systems.

Kem Appliance Flash Bake Primers

Bake up to six times as fast as old type primers.

Quick air-dry for Mono-Bake System—baking time up to six times the speed of primers formerly offered. No sacrifice in quality or characteristics were made to gain this speed. Baking at lower temperatures is permitted when desired with time still cut in half as compared with older materials.

Because of their speed and the worthwhile economies in both time and fuel, product finishers will welcome these new Flash Bake Primers.

CUT IN HALF!

Resists Color Change

S-W Kem Appliance Heat Resistant White

Formulated particularly to resist color change when used on surfaces subject to elevated operating temperatures, Kem Appliance Heat Resistant White Enamel offers many interesting possibilities to manufacturers of stoves, heaters, clothes driers, and similar appliances. Baking schedules are: 25 minutes at 300° F.; 15 minutes at 350° F.

For Fast Low Bake

Kem Appliance Low Bake Enamel

Where service requirements and baking equipment call for an enamel capable of baking at lower temperatures, Kem Appliance Low Bake Enamel makes possible speeds formerly obtainable only in high baking enamels.

Alternate baking schedules are: 15 minutes at 250° F. or 60 minutes at 200° F. It may be force-dried as low as 175° F. for two hours.

It Air Dries—New Kem Appliance Air Dry White

A true Kem Appliance Enamel, formulated to air dry. It has been designed for cabinets, metal furniture, hot water heaters, stove legs, vending machines, and scores of similar products.

Drying is fast:

1. To Touch—10 to 15 minutes.
2. To Handle—1 to 2 hours.
3. To Pack—Overnight.

In color retention, mar-resistance and alkali-resistance, Kem Appliance Air Dry White is tops for an air dry finish. Compares favorably with many baking enamels in use today.

SHERWIN-WILLIAMS INDUSTRIAL FINISHES

FREE! Please send me without cost or obligation, my copy of the technical report on the S-W Kem Appliance White Enamels.

PRODUCT FINISHES HEADQUARTERS,
THE SHERWIN-WILLIAMS CO., CLEVELAND, OHIO

NAME_____

FIRM_____

STREET_____

CITY AND STATE_____

SPEED WITH BEAUTY AND DURABILITY

You have heard much of speed lately, but little has been said for the beauty and durability of the resultant finish. You can now have both if you purchase SPEED-COTE "XN".

A tough, tenacious baking enamel, designed for bare metal adhesion that bakes at 275° Fahrenheit for fifteen minutes or 350° Fahrenheit for seven minutes to a hard, flexible, mar-proof surface. Furnished in a PURE white and many beautiful pastel, as well as solid shades, *that are moisture proof and resistant to weak alkalies and acids, fruit juices, soap, etc.*

Why employ higher heats to accomplish speed, if the fuel costs are going to offset the savings. SPEED-COTE "XN" requires only the normal heats now employed in most factories and *yet cuts the baking time down to a minimum.*

SPEED-COTE "XN" reduces to spray FIFTY percent for full covering with SYNTOL REDUCER "B", a low cost reducer that brings your cost at the gun down within the price range where many operators are paying for inferior products.

WRITE TODAY FOR YOUR FREE SAMPLE OF SPEED-COTE "XN" AND LITERATURE DESCRIBING THIS AMAZING NEW FINISH

THE SCHAEFER VARNISH COMPANY

15th and Magnolia Streets

Louisville, Kentucky

"Finish the Schaefer Way—and Save"

Spraying Nail Lacquer

ON FINGER-NAIL POLISH SELECTOR

BY H. T. LUDGATE

AN UNUSUAL decorative spray job consists of spraying finger-nail lacquer colors on formed sheet celluloid nail polish selectors like the one illustrated in Fig. 1. The selector is 2½-in. wide and 12-in. long.

This color selector is very much of an aid at every nail polish counter and cosmetic department. Shades of nail polish vary all the way from clear through the delicate tones of rose, beige, suntan, etc., to exotic reds, greens and others. But American women are very discriminating; they must get that exact tone of color that will blend with their ensemble. The color selector is the answer. By placing the finger under the transparent, molded selector, the exact effect may be determined as though the nail were tinted.

Obviously, nothing looks more like nail lacquer than nail lacquer itself; therefore the actual colors are sprayed on the selector.

The operator sprays one nail color at a time, using a masking shield to guide it. Illustratons from photographs loaned through courtesy of The DeVilbiss Co.

As will be observed in the illustration marked Fig. 2, the spray equipment consists of a small but modern spray booth, a holder for the selector, and a small but efficient touch-up spray gun—the same type that is used

for fine work in product finishing. This is probably the first photograph taken of the spraying of nail polish—not on Milady's fingers, but on a transparent molded celluloid sheet called a color selector.

Colors on the selector are separated by means of a shield. To minimize the number of motions required, one color is sprayed at a time. In other words, all the selectors in the production are given one color; then they go through the booth again for each succeeding color. The sprayed colors and printed decal. are on the underside of the selector.

This interesting decorative operation is performed in the M. V. C. Laboratories, located in Toledo, Ohio—probably the largest concern in the industry devoted exclusively to liquid manicure requisites. Their plant, containing over 22,000-sq.ft., is a model of modern industrial perfection. This spray outfit is just one step in their modern equipment for high-speed production and packaging, which enables them to keep pace with the industry in supplying the vast quantity of nail polish used by American women today.

C. M. Hughes Joins Hilo

Hilo Varnish Corporation, 44 Stewart Avenue, Brooklyn, N. Y., announces that Mr. C. M. Hughes, formerly of Zapon, will be in charge of the Hilo lacquer department.

Wrinkle Finish Data Sheets

Data sheets, giving general and technical information on wrinkle finishes, are being distributed by Maas & Waldstein Co., 438 Riverside Ave., Newark, N. J., makers of industrial finishes. The company's new line has greatly extended the usefulness of the ever-popular wrinkle finishes . . . . supplied in all colors, including pure white, light tints and pastels. Being of low viscosity, they have increased covering power and can be applied with a uniformly fine grain, as well as coarse and heavy structures.

The data sheets, supplied on request, cover many details, such as spraying air pressures, baking times and temperatures, method of obtaining various kinds of wrinkles, patching, etc.

El Camio (Early California furniture) displayed at the Los Angeles Furniture Mart.

It's Easy To Mask
Large Curved Areas with
SCOTCH MASKING TAPES
Wide widths of Scotch Masking Tape cut into patterns save many hours of time, produce keen sharp edges and greatly reduce finishing costs per unit. Flexible backing allows the tape to follow any contour.
A wide varied range of adhesive properties and types of backings allow you to choose the tape most suited to your specific use.
WRITE FOR SAMPLE ROLL
Made and Patented in U. S. A. by
MINNESOTA MINING & MFG. COMPANY
SAINT PAUL
MINNESOTA
The Desire To Serve
The Ability To Produce
Canadian Manufacturers and Distributors, CANADIAN-DUREX ABRASIVES, LTD., 154 Pearl St., Toronto, Can.

A finish completely different from finishes previously used on furniture... cuts finishing time sensationally... gives furniture greater retained beauty...gives you far greater production economy!

YOU ASKED FOR a finish that combines the speed and quality of lacquer with the build of varnish.

HERE IT IS... DU PONT DULUX. It is made to dry on an elevated temperature drying schedule of only a few hours! (2 hours at 150°.) DULUX offers you, from sealer to packing, a 5½ - 7½ *hour* finishing schedule! Compare *that* with the usual 29 - 43 hour schedule for varnish and the 22 - 28 hour schedule for air drying lacquers!

Consider these additional economies: The build of DULUX makes only *one*

DU PONT

DULUX

FULFILLING AGAIN THE DU PONT PLEDGE OF BETTE

T ANNOUNCES

DULUX FINISH
URNITURE...

coat necessary . . . saving material and the time required for preparation and application of a second coat. DULUX flows as easily as varnish, which contributes toward its ease of rubbing. DULUX is fast-drying, too. All of these factors combine to offer you tremendous savings on your production overhead.

Retained Fine Appearance

DULUX has a sparkling, clear film, with excellent depth of appearance. Moreover, DULUX *keeps* its initial beauty. It is amazingly resistant to yellowing or darkening, and to alcohol spillage. Its resistance to water, scratching, cold cracking, its print resistance are comparable with lacquers and far superior to varnishes.

In every way, DULUX offers greatly stepped-up speed in production, easier operation and a very welcome economy.

For full information about this new, *different* finish, write E. I. du Pont de Nemours & Co., Inc., Finishes Div., Wilmington, Del. Canada: Canadian Industries, Ltd., Toronto. Great Britain: Nobel Chemical Finishes, London.

LUX FOR FURNITURE

BETTER THINGS FOR BETTER LIVING THROUGH CHEMISTRY

Not a Revised Edition But a Completely New Book!

THE NEW 1939 CHEMICAL FORMULARY

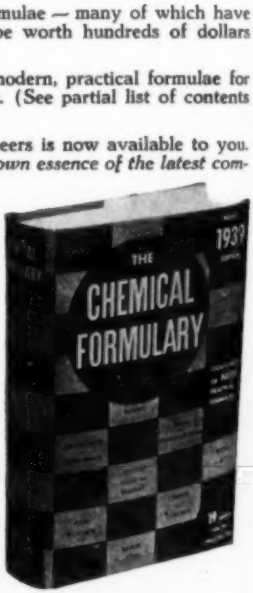
VOLUME IV

Thousands of Practical Formulae!

Over 600 pages containing thousands of practical formulae — many of which have never before been made public. One formula may be worth hundreds of dollars to you.

A condensed collection of new, valuable, timely, modern, practical formulae for making thousands of products in all fields of industry. (See partial list of contents below.)

The experience of hundreds of chemists and engineers is now available to you. Use it and profit. *Have at your finger tips the boiled-down essence of the latest commercial methods of hundreds of chemists, engineers, technicians and professors. Have it when and where you need it.*



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If you already have Vols. I, II and III, you won't need urging to get Vol. IV. It contains entirely new and different material. It will be just as valuable to you as the previous volumes.

If you do not have the previous volumes, get all four if you can afford it. Or start with Vol. I, and after you have that, we know you will want the others. Remember, each volume is different and complete in itself!

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More than 600 pages (6x9 inches)

Kem Lustral Enamel

The Sherwin-Williams Co., Cleveland, Ohio, has just released a 24-page pictorial and technical report in color, on what is said to be one of the most interesting developments for wide industrial use in paint history. The report is called "From a Cleveland Laboratory." The new product described is S-W Kem Lustral Enamel, a remarkably versatile finish that can be brushed, sprayed, dipped, air-dried or baked, and applied to wood or metal surfaces subject to exterior or interior exposure. Not claimed as an "all-purpose" enamel, Kem Lustral serves 1001 specialized product fininshing and maintenance needs and sets a new standard of quality at low material cost.

Kem Lustral is said to produce a smooth, mirror-like finish of remarkable sales-appealing beauty, and to maintain its toughness, gloss and color exceptionally well under exposure.

Chief merits claimed are greatly simplified finishing schedules, lowered inventories for manufacturers, and new opportunities to improve quality and cut costs on finished units, because volume production makes Kem Lustral one of the greatest dollar values the company has ever been able to offer. Wide demand also makes it possible to stock all colors at S-W warehouses coast to coast, assuring ready availability.

Kem Lustral Enamel is built around a completely new kind of synthetic resin. It is Kem Lustral's specially evolved resins that give it the unique working qualities and beauty, it is said. Kem Lustral is recommended for innumerable finishing tasks, ranging from a little toy or utensil to a municipal stadium.

New...

MATERIALS
SUPPLIES
EQUIPMENT

Portable Airpainting Outfit

The Paasche Airbrush Co., 1911 Diversey Parkway, Chicago, Ill., offers an inexpensive but efficient ¼-hp. air-painting unit, complete with pressure-feed material tank, hose, air-compressing unit, and pressure cup, for use with the airbrush.

On small jobs, the pressure-cup airbrush unit may be used in con-

For the small production shop and small operator.

nection with the air compressor unit, but on the larger jobs, the pressure-feed material tank enables the operator to work for longer periods without stopping to fill the container.

The size of the pressure-feed material tank is 1½ gallons, and the hose supplied with this unit, provide a working radius of 55-ft.

Wear Testing of Finish Film

A new development of the Taber Instrument Co., North Tonawanda, N. Y., represents the only completely coordinated physical testing outfit commercially available for measuring the amount of wear and abuse that various types of surfaces will withstand. This is accomplished with such precision that the resulting information, coupled with aging and chemical resistance determinations, makes possible accurate predictions of the useful life of the finish. This enables manufacturers of finishes to "laboratory test" new developments before releasing them to the consumer. In the same manner large industries and consumers can purchase finishing materials according to their respective merit and value instead of taking a chance on bargain materials that "look good".

The company's Bulletin No. 3901 describes and illustrates the Model J Portable Taber Abraser.

Ready-Mixed Aluminum Paint

A new principle in aluminum paint production—one group for maintenance work and one group for product finishing—has been announced by the Paint Division of Aluminum Industries, Inc., Cincinnati, Ohio, producers of Permite Ready-Mixed Aluminum Paint.

The product finishing classification includes: 1) A quick-drying, ready-mixed aluminum paint that will dry to touch in 10 to 15 minutes, for application on toys, ornaments and all kinds of wood and metal products; 2) a ready-mixed nitrocellulose spraying lacquer that will dry to touch in 5 to 10 minutes; 3) a very fast-drying spraying lacquer which will dry to touch in ½ to 2 minutes and dry hard in 3 to 5 minutes; 4) a short-oil synthetic grade of ready-mixed aluminum paint intended for use where an exceptionally smooth and brilliant finish is desired; and 5) a dipping-type aluminum paint that can be air-dried or baked at 300° F. These Permite aluminum paints are ready-mixed and ready to use.

Gun for Spraying Hot Lacquer

The DeVilbiss Co., Toledo, Ohio, offers their type MBC spray gun, fitted with the new twin fluid tube and new air cap No. 766, making the gun especially adaptable for spraying heated lacquers. The spray pattern produced is 12 to 14-in. wide, 7-in. from the gun, and is such that overlapping is allowed without piling up excess material.

Notice twin fluid tube which permits continuous circulation of hot lacquer.

GLIDDEN
DUOTONE
A Remarkable and Economical
New Two-Tone Finish For Metals
• Glidden DUOTONE is an advanced one-coat protective and decorative finish for metals. Produces a beautiful two-tone effect.
Sprays freely—excellent for all gradings of metals. *Stable*—not affected by foul oven conditions. *Economical*—a one-coat finish—gives greater coverage. *Enhances*—gives products new consumer appeal.
DUOTONE is spray-applied, and is available in any colors you need. Write for complete information.
THE GLIDDEN COMPANY
National Headquarters CLEVELAND, OHIO
Factories in:
Cleveland • Reading • Chicago • St. Louis • Minneapolis
New Orleans • Los Angeles • San Francisco • Toronto, Canada
★ ★ GLIDDEN ★ ★
Everywhere on Everything

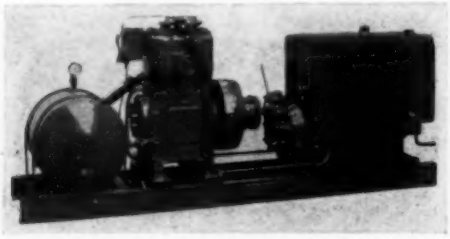
The fluid hose developed for this work is flexible, light in weight, and particularly resistant to the corrosive action of lacquers and solvents at the higher temperatures. It is advisable to use the ¼-in. inside diameter hose whenever possible, as it is more flexible and lighter in weight. The hose is made, however, in $\frac{5}{16}$-in., ⅜-in. and larger sizes.

Referring to the new twin fluid tube, which shows so clearly in the accompanying illustration, hot lacquer is brought up to the gun through one tube and the surplus is returned to the circulating system through the other. By making a quick, complete circuit of a quantity of this material, the lacquer is kept hot at all times. In addition, the double tube arrangement brings it right up to the spray head so that nearly every trigger pull taps this stream of heated material.

Gas Engine and Compressor Unit

A large water-cooled compressor recently sold by the Binks Mfg. Co., 3114 Carroll Ave., Chicago, Ill., uses the same water for cooling the water-cooled gasoline engine which drives the compressor. The accompanying illustration shows the water pipes running to and from engine and compresser.

The compressor is a twin-cylinder type having a displacement of 55-c.f.m. The gas engine develops 6-hp. Engine, compressor and air tank are mounted on skids. The whole unit is, in turn, mounted on a flat truck for carrying it from spray painting job to job for a State Highway Department. The compressor will handle from three to four heavy-duty spray guns for cut-back asphalt, sound deadner, and other heavy material.



An air compressor outfit driven by a 6-hp. gasoline engine. Both units are cooled by the same circulating water.

Acid-Proof Finish

"Causticbond" is a black resin compound, developed by the Wilbur & Williams Co., Park Square Bldg., Boston, Mass., as a protective coating for wood or metal exposed to liquid acids or caustics. It gives a black semi-gloss finish, and is recommended for lining tanks containing the usual commercial acids and commercial caustics, whether these tanks are metal, wood or concrete. It is recommended to protect machinery from spillage of such products. It is resistant also to chloride gases, and to alcohol.

It has been exposed to varying degrees of commercial acids and caustics, at varying heats, and it will stay hard up to the boiling point of water. Above this point it slowly softens, but is perfectly usable up to 400° F. as it will harden back again as soon as the temperature is lowered. Tests show that black causticbond should not be exposed to the following products: gasoline, carbon tetrachloride, mineral spirits, turpentine or liquid bleach (sodium hypochlorite).

Causticbond is supplied at brushing consistency. If necessary, it may

This happens so often that a leading Heating Manufacturer reports:

"Our De Luxe Line in your MULTIFORM FINISH Outsold our lower-priced standard line in another finish. Our new line will be all in Multiform finish."

BERRY BROTHERS Multiform is ideal for heating equipment because it looks, feels and cleans like porcelain. Obscures metal marks; easy to apply; less reject; won't chip; patches without stripping; low finishing cost. Ideal for stokers, furnaces, air-conditioning units, water heaters.

LOOKS LUXURIOUS AND EXPENSIVE

and has great buyer appeal—even with a higher price tag. A "standout" in window and store displays.

Write or wire for Multiform Color Book and Prices.

BERRY BROTHERS
Industrial Varnishes • Enamels • Lacquers
DETROIT, MICHIGAN WALKERVILLE, ONTARIO

be slightly thinned wtih turpentine. The surface to be painted must be neutralized of any acid or alkali deposit, and it must be thoroughly cleaned of loose rust, dirt, grease, oil or scaling particles. Two coats of material are necessary, and three coats are recommended. These can be applied about 12 hours apart under normal drying conditions. Painting must be done carefuly to make sure that all sharp edges, rivet heads, corners, etc., are carefully coated, as any minute spot left untreated will be the source of growing corrosion.

Duotone; Bake Finish

Duotone, a new baking metal-finishing material which meets industrial utility, economic and appearance demands, is announced by The Glidden Co., Cleveland, Ohio. Designed specially for use on various gradings of metals, it produces a uniform 2-tone effect in one spray application. The new product is available in a wide variety of colors applicable to a wide diversification of production.

Advantages claimed by the manufacturer for Duotone are: 1) Stability. It is easy to apply, unaffected by varying oven conditions, and produces a consistently uniform finish. 2) Economy. Rejections minimized; coverage per gallon, excellent. 3) Product appeal. Responses to presentation to many representative metal products manufacturers indicate acceptance of this new finish.

Air Motored Mixers

The Eclipse Air Brush Co., Inc., 390 Park Ave., Newark, N. J., has just introduced a new mounting in its line of Pneumix air-motored agitators for the direct drive types. All the features of the Pneumix are retained, including variable speeds (30 to 6000-r.p.m.), quiet operation and elimination of fire and explosion hazards. A laterally-swinging cross-arm, holding the air motor with direct drive shaft and propeller, is adjustable up and down a vertical bar and can be fixed at any height.

The ease of lowering the agitating unit (weight 15-lbs.) into the tank

Small and Large Size Mixers.

and raising it when the operation is completed is the main feature of this new mounting.

The illustration shows two extremes in this series: the little AL for laboraory work and the 5-ft. BL, a stationary unit for production work. Shafts and propellers in this series are standard in chromium-plated or stainless steel. Other metals are available to meet unusual conditions.

A thorough stirring-up and mixing of the finishing material is highly important before it can be used effectively for productive operations.

A sign we like to see

Your coating problems may not be so serious! Answering Help Wanted's is part of our job. We have done it — are doing it NOW — for many of America's best-known manufacturers. Very possibly the Stanley laboratory already has the answer to your problem. In our files at this moment may be the formula for a finish which will cut finishing time, reduce finishing costs and improve the salability of your product. Address your Help Wanted letter to Department E.

THE STANLEY CHEMICAL CO.
EAST BERLIN CONNECTICUT
Lacquers · Enamels · Synthetics · Japans
A SUBSIDIARY OF THE STANLEY WORKS NEW BRITAIN, CONN.

Clear Bake Finish

Hilo Varnish Corp., 42-60 Stewart Ave., Brooklyn, N. Y., announces "Vitra-Carlite Clear." Actual tests show that it is especially suitable as a finishing coat over metals, metallic finishes, and colored enamels wherever a thin coat will give added luster and surface hardness.

Vitra-Carlite Clear is almost water-white pale in color. It can be used wherever the article to be coated will stand baking at 250°F. for one hour. Practically no discoloration of the metal occurs with Vitra-Carlite Clear.

Metal Sealer

A new crank case sealer which stands immersion in lubricating oils for four hours at 350°F., and which is claimed to be unaffected by Freon, Carrene and other refrigerants now available, is announced by the Roxalin Flexible Lacquer Co., Elizabeth, N. J. The new sealer was developed in the laboratories there.

According to the announcement by company chemists, this material does not chip or flake under sharp knocks and severe abrasion; it air-dries in regular lacquer time and is applied easily by spraying or flow-coating. It also seals in any sand partices that may remain in the castings. It is colored red to insure complete coverage, but contains no abrasive pigments.

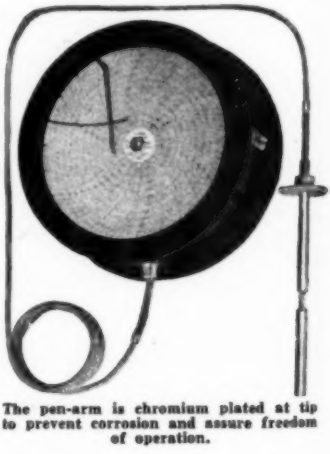
Touch-Up Black

A new black enamel has been developed by the Du Pont Co., Wilmington, Del., for the automobile refinishing trade. It was designed expressly for touch-up and repair work when speed is essential. It hardens more rapidly than blacks previously available and is quicker drying. It may be rubbed and polished soon after application without assuming a gray tone. Rubbing compounds do not effect the color.

The new finish may be reduced in proportions of 2 to 1 with "Duco" lacquer thinner. Packaging is in quarts, gallons, and 5-gallon cans. It is known as "Ebonblack" pyroxylin enamel.

New Recording Thermometer

The Wheelco Instruments Co., 1933 S. Halstead St., Chicago, Ill., announces a precision-built recording thermometer that provides maximum accuracy of temperature measurement and faithful recording of all temperature variations. It is styled to efficiently meet industrial requirements from 0°F. to 1,000°F., and is substantially constructed to render



The pen-arm is chromium plated at tip to prevent corrosion and assure freedom of operation.

long dependable service with minimum maintenance. . . . a valuable instrument when used in conjunction with the highly efficient Wheelco "Radio Principle" controllers. Charts are accurately calibrated over entire scale range, and are available for all general industrial purposes.

EGYPTIAN
ZINC CHROMATE PRIMER

Another new item recently added to the ever-growing line of Egyptian Finishes. Sufficiently new to be as modern as tomorrow yet old enough to have been tried and proven on a variety of products.

Egyptian Zinc Chromate Primer can be applied by spraying, dipping, or brushing, or may be roll coated . . Dries rapidly to take lacquer, synthetic, or varnish finishing coats without lifting, boiling, or blistering . . . Can be force dried without affecting adhesion or flexibility . . . Is exceptionally rust-inhibiting.

Egyptian Zinc Chromate Primer fills or bridges minor imperfections in metal surfaces to a marked degree . . . It lays smooth and has excellent spreading capacity . . . Can be used in multi-coat single bake systems, saving costs, time, and baking operations . . . For exterior or interior use.

In short, Egyptian Zinc Chromate Primer possesses advantages no user of industrial finishes can afford not to investigate . . . Ask for further details.

EGYPTIAN FINISHES

THE EGYPTIAN LACQUER MFG. COMPANY

ROCKEFELLER CENTER, NEW YORK

PERMALUM

SILVER BRIGHT ALUMINUM

- Used in large production over three years. No loss of leafing or brightness.
- Can be dipped, sprayed or flow coated. Bakes 20 to 30 minutes at 225° to 250°.
- Guaranteed not to separate or break.
- Produces a low cost, mar-proof, attractive, bright finish.

Write for Working Sample.

PRUETT-SCHAFFER CHEMICAL COMPANY

PITTSBURGH, PA.

Stop-Off Lacquer

The Michigan Chrome Co., 6340 E. Jefferson Ave., Detroit, Mich., has added a new, clear, non-pigmented lacquer to the established line of Micro Supreme Stop-Off Lacquers. This new coating material was developed for concerns who prefer the non-pigmented type of lacquer for insulating their plating racks.

This lacquer is compatible in every way with the red and black stop-off lacquers which the company has been manufacturing for rack insulation purposes. It can be applied directly on a metal surface with no treatment necessary other than a thorough cleaning of the surface to be coated. It has proved to be practically unaffected through the regular cycle of decorative plating. It has proved very effective in processes such as concentrated or diluted hydrochloric acid or sulphuric acid dips, cyanide or acid copper baths, standard or bright nickel baths and chromic acid baths. It is also impervious to nitric and hydroflouric acids and has proved satisactory for use with degreasing units.

Low-Bake Dulux Enamel

A new enamel for industrial finishing is announced by the Du Pont Co., Wilmington, Dela. Known as Low-Bake "Dulux" enamel, it speeds up production in low-temperature ovens. It affords the following baking schedules:

One quarter hour at 250°F; one half hour at 225°F; one hour at 200°F; two hours at 175°F.

The new finish has demonstrated excellent gloss and build, print resistance, and retained flexibility. It is said to be wrinkle-proof under all normal conditions. It gives satisfactory hiding in one coat when applied on solvent-cleaned steel, bonderited steel or primed steel. White and colors are available.

C. M. Rice Represents Bakelite In Cleveland

Charles M. Rice, Sales Engineer for the Paint and Varnish Resin Division of Bakelite Corporation, has been transferred from New York City to the company's Cleveland office at 7016 Euclid Ave. . . . to facilitate the servicing of Bakelite customers in Mid-West territory.

Air Cleaning Catalog

Schmieg Sheet Metal Works, Detroit, Mich., has just issued a new catalog giving information about air cleaning and dust collecting equipment and featuring the company's Centri-Merge wet system of dust collecting. The catalog is of loose-leaf type divided into sections dealing with dust arresting in both centralized and localized systems, spray booths, air washers, parts washers, cyclones, and other special equipment designed and manufactured by the company for air cleaning in industry. The book is profusely and attractively illustrated.

YOU be the of HILO

VITRA-CARLITE

YOU, yourself, can judge the merits of this NEW Short-Bake 100% Synthetic Enamel for its maximum Serviceability, Economy in Production and Beauty of Finish. Put it on trial along with other finishes of this type. You'll find, we believe, the results obtained with VITRA-CARLITE to be of interest.

Listed below are some of the distinctive advantages which a test of VITRA-CARLITE will show:—

- ✓ **Short-Bake (300° F. for 20 min.) Allows for Greater Output.**
- ✓ **Highly Satisfactory Results in One Coat (A Time-Saving Factor).**
- ✓ **Looks, Feels, Wears Like Porcelain.**
- ✓ **Extreme Adhesion, Hardness, Flexibility, Mar-Resistance, Durability.**
- ✓ **High Resistance to Grease, Alkali, Soap.**
- ✓ **Sets Up Quickly — Insures Clean Work.**

If you want to secure a beautiful, economical, Sales-Appealing finish, write today for complete information and trial sample.

HILO

HILO VARNISH CORP.

42-60 STEWART AVENUE, BROOKLYN, N. Y.

Boston Chicago

Spray Booth Lining

We are interested in obtaining wallpaper that is to be used for a spray booth. This paper is to have glue on one side so that it may be glued to the wall and then can be removed when necessary. Will you kindly send us samples of this item if you carry it? If not, will you please advise us where we can get it?—N & G (Covered Novelties).

We know of no manufacturer furnishing paper of this kind. Users of spray equipment in this territory generally use ordinary brown wrapping paper, or even newspapers, and fasten them temporarily to the walls of the spray booth, either with strips of masking tape or by applying cheap, thick lubricating grease to the interior walls of the spray booth and then pressing this paper against the greased surface. Either of these methods is satisfactory and we believe this is cheaper than the idea you have in mind of purchasing large sheets that have a coating of dry adhesive on one side. These paper linings, of course, are only put on temporarily—that is for a few days or a few weeks, until they become more or less covered with waste spray. Then they are peeled off and replaced with new sheets of paper.

If you desire to try masking tape for fastening the sheets of paper in position, you can obtain rolls of this material from some of your local retail paint stores. The leading manufacturers of masking tape are Minnesota Mining & Mfg. Co., St. Paul, Minn., and Industrial Tape Corp., New Brunswick, N. J.—EDITOR.

Questions Answers

Cedar-Odor Paint

On page 49 of April, 1938, issue of your magazine, you mentioned moth-repellant paints in which cedar oil was used. We are interested in learning more about them—who makes them, etc.,—and will appreciate any information you can send us.—S. S. Co.

We have been unable to learn definitely the name of any concern making a moth-repellant paint or finish that has a cedar odor. One of our correspondents states that cedar wood oil can be mixed into certain kinds of paints to produce this effect.—EDITOR.

Further information on this subject is revealed in the following letter from Sparhawk Co., Sparkill, N. Y.:

We do not know of a single concern making a cedar paint such as you describe, although we have sold Ced-R-Wood extensively for that purpose. This product is a non-volatile oil of cedar wood.

To explain Ced-R-Wood . . . volatile oils are distilled, being thus carried over into condensers by vapors. This makes them fast evaporating and in-constant, so they disappear completely, leaving no film. On the other hand, Ced-R-Wood resembles a fixed oil, such as linseed, cotton-

seed and olive oil; they do deposit a film, even though they dry and harden. This later action is generally an oxidization or chemical action by contact with the oxygen in the atmosphere, which requires considerable time.

Ced-R-Wood is a resinous heavy oil that penetrates the wood, paper or cloth, impregnating it with a heavy residue of cedar. This remains liquid for a long time; and even when it does dry and harden, it leaves this resin in the fiber and grain of the wood, cloth or paper. We make two types.

Ced-R-Wood No. 1 is a clear, heavy-bodied cedar oil, about the viscosity of molasses. It is used where a transparent coating is desired. It will dissolve readily in other oils or vehicles so as not to discolor paper, wood or other surfaces. Certain varnishes and lacquers require a clear oil so as not to destroy the appearance of the undercoat.

Ced-R-Wood No. 2 is an opaque, reddish-colored residue, thicker and heavier than the No. 1. It is recommended for refreshing the insides of cedar chests, closets, cedar paneling and other surfaces of cedar which have become dead and inefficient due to the fact that the original oil (volatile) has evaporated and completely disappeared. It can be applied on any wood, such as pine, walnut or mahogany, or it can be sprayed on plaster, paper, cloth or leather, giving it the odor of cedar.

Another outlet for Ced-R-

Bull Dog Quality Lacquer Sticks

The perfect Lacquer Burning-in Cement. Will not raise or soften and is not affected by any type of lacquer.

LARGEST LINE OF COLORS

Write for Color Card, showing both Lacquer and Shellac Stick Colors and for the name of nearest distributor.

UNIVERSAL SHELLAC STICK CO., Inc.
28 Howard Street New York, N. Y.

Wood is on fiber containers (like the "Odora" line of clothing closets), for tar-paper bags, linen clothes hangers and similar articles for protecting clothing from moth damage. These articles can be sprayed with the liquid, using a cheap fly-spray or any hand-pumping-sprayer, which gets the Ced-R-Wood into the corners, crevices and along the sides, completely incorporating the active cedarwood oil into the porous surfaces.

Several paper mills that make paper cartons resembling cedar boxes, such as are used for cigars, cigarettes and other items formerly sold in wooden containers, have been experimenting with it. A wallpaper concern is trying it out for cedar wallpaper design, for papering the insides of closets, after the paper has been coated with Ced-R-Wood. There is also a demand for paper that is printed to imitate knotty pine, for papering the insides of rooms. Certain restaurants favor this type of decorating.

We also make a No. 3 grade for termites, for replacing creosote in timbers, beams and flooring. Termites do not attack cedar. Ced-R-Wood No. 3 is a solid resin, soluble in kerosene. We recommend the use of Paradichlor-benzene in solution with kerosene and Ced-R-Wood. This kills the larvae, worms, eggs and ants, leaving the house pleasantly smelling and not discolored by the black stains of creosote—SPARHAWK CO.

Why Veneer Joints Raise Up

We are having some complaints on raised veneer joints on merchandise which has been out for four to six months. It seems that the finish does not check, nor do the joints open. The joint line merely bulges a trifle, which is very noticeable.

Our biggest complaint is on sewing machine lids. These lids have a core made of No. 1 common & better, sound wormy chestnut, and are "bound" on all four sides with No. 1 poplar. They are 5-ply, with plain striped walnut front and back, and are finished as follows:

Stained, filled, sealer coat, sanded, two coats of lacquer; after which the lid is rubbed.

If you can give us some idea as to what causes this trouble, same would be appreciated.—K. Furn. Co.

There may be any one of several causes for this trouble. Possibly the film of glue was too thin, or it may have been a type of glue that is more susceptible to loosening when water stain is applied. Whether you use water stain or oil stain is not mentioned.

If these face veneers have been glued with heated animal glue, we suggest you try changing to a cold casein glue. One concern

(Continued on page 62)

"Who said Hot-Spray?"

By DARWIN E. ELLIS
Pierce & Stevens, Inc., Buffalo, N. Y.

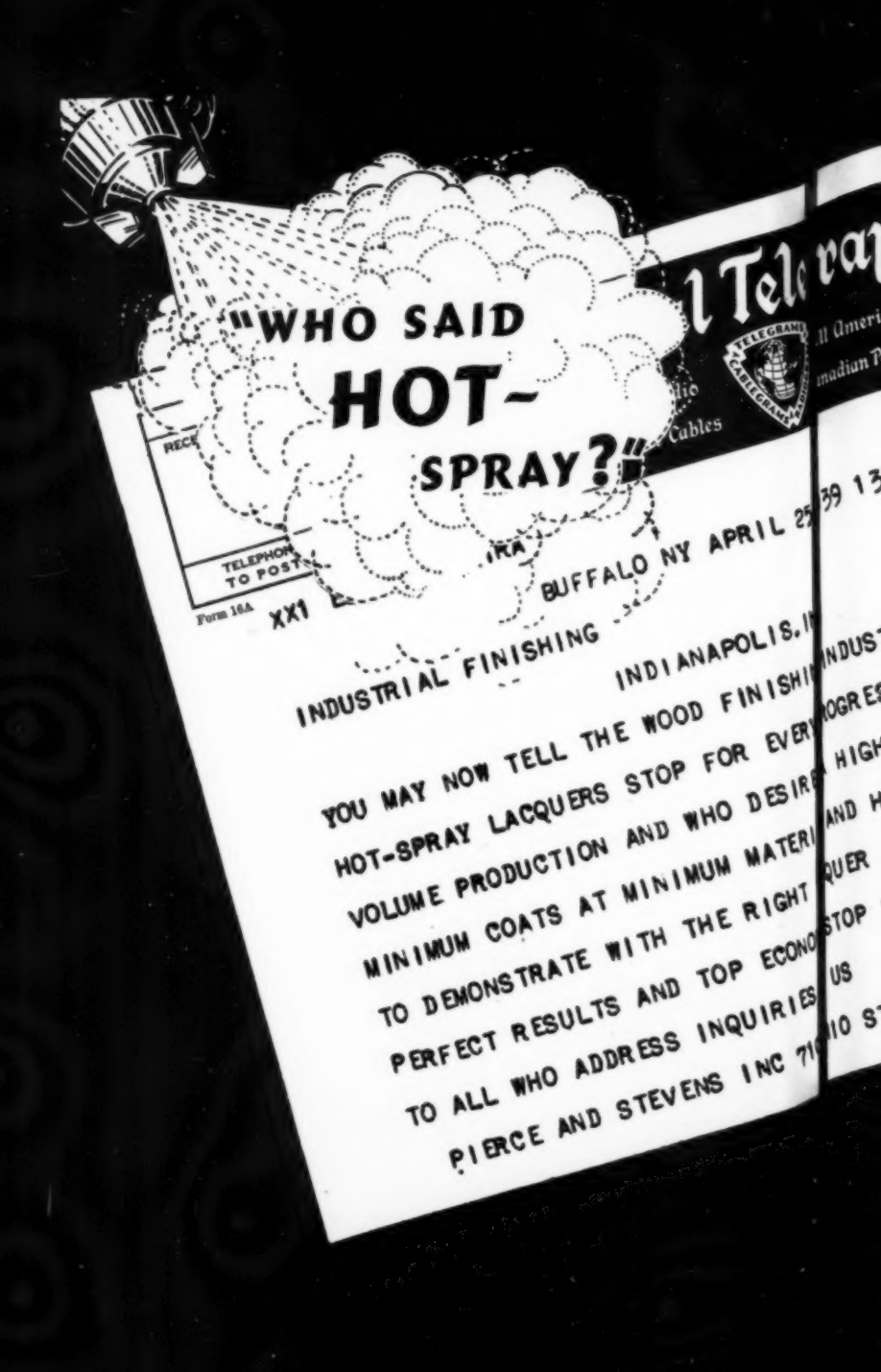
IT is a regrettable fact conceded by industrial lacquer users that in recent years there has been a dearth of progressive lacquer development both in the direction of improved performance and in lowering of costs. Indeed the present is particularly auspicious for a major lacquer development. Fortunate it is therefore that Hot-Spray Lacquer has proven of extreme merit in both performance and cost. It is the writer's opinion that Hot-Spray Lacquer will definitely justify its rightful position in the wood finishing industry.

It was formerly necessary for radio cabinet or furniture manufacturers to purchase a 21% solid content lacquer at spraying consistency, or a 27% solid content lacquer which required a reduction with thinner to a lower solid content, in order to obtain spraying consistency. Stated differently, the solids of a lacquer at spraying consistency were between 21 and 23% because of the limitations of spray equipment. Some lacquers were made to spray at slightly higher solid content. However, the higher ratio of required resins resulted in only fair durability, cold-check resistance, etc.

Through several years of active research and the expenditure of many thousands of dollars, Hot-Spray Lacquers of proven durability and inexpensive application equipment are now available. Spraying consistency with high solid content is now successfully obtained by applying Hot-Spray Lacquer at a temperature of approximately 140° F.

In proof of the practical advantages of Hot-Spray Lacquers, broad use under actual production conditions are a matter of record. One particularly interesting pro-

(Advertisement)


"WHO SAID
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SPRAY?"
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YOU MAY NOW TELL THE WOOD FINISHI
HOT-SPRAY LACQUERS STOP FOR EVER
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INDUSTRY WE HAVE THE ANSWER TO
OGRESSIVE WOOD FINISHER WHO HAS
HIGH BODIED HIGH GLOSS FINISH WITH
AND HANDLING COST WE ARE PREPARED
QUER AND THE RIGHT EQUIPMENT FOR
STOP COMPLETE FACTUAL DATA AVAILABLE

US

...10 STREET BUFFALO NY.

1884

duction "run" recently conducted by the writer in the plant of a large manufacturer of radio cabinets is herewith described:

One hundred large radio cabinets were finished on the regular schedule which specified three spray coats of 21% solid content lacquer. The material cost for the lacquer on these cabinets was $140.25. One hundred identical cabinets were finished with a higher solid content Hot-Spray Lacquer. Only two spray coats were required to produce a finish having slightly better body and lustre than the three-coat conventional schedule. The cost of Hot-Spray Lacquer used was $90.45—a saving of over 35%, exclusive of the lower labor and handling costs!

It is of utmost importance to note that in addition to substantial material and labor economies, the performance record of the Hot-Spray Lacquer also revealed: Blushing virtually eliminated, absence of pinholing, higher body-per-coat, improved flow with minimum of orange peel, reduced dry-spray or "dusting", faster set-up time.

Additional points of superiority for the Hot-Spray finish were observed in the rubbing room; in fact slight advantage occurred in favor of the Hot-Spray finish through reduced rubbing time and effort. "Rubbed-through" spots were entirely absent thus eliminating rejects formerly experienced with conventional lacquers. Furthermore appearance of the Hot-Spray finish was outstanding in both body and lustre which resulted principally from less shrinkage.

Exhaustive comparative tests for cold-checking, print and scratch resistance and "after-hazing" further confirmed the uniform superiority of the Hot-Spray finish.

To complete the "Utopia," the production equipment required to accommodate Hot-Spray Lacquer has been developed to extreme simplicity; in fact this equipment is adaptable to any existing standard spray equipment and its cost, because of its simplicity of design, is most nominal.

Indeed, to the wood finishing industry Hot-Spray Lacquer is the most notable devlopment since the introduction of low-viscosity nitrocellulose lacquers; an achievement which well justifies the active interest of that industry.

The "P&S" Pressure Kettle equipped for Hot-Spray lacquer application with temperature and pressure control.

(Advertisement)

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Hand sanding in production is tedious and costly. *Modernize* your sanding operations with the STERLING SPEED - BLOC SANDER—fast, flexible, efficient and economical. STERLING SANDERS increase production and save up to 25% on abrasives and 75% on labor. Produce far superior finishes. Unequalled for sanding or rubbing on metal, wood, fabric, composition materials, etc. Works on flat or curved surfaces with equal efficiency. Adaptable to Wet or Dry applications. Uses standard abrasive papers of all grits. A demonstration tells the story! Write for full details.

Catalog Sent on Request.

STERLING PRODUCTS COMPANY

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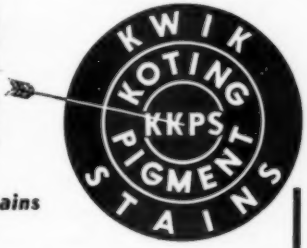

They are the only pigment stains having these characteristics:

1. Reduce with Naphtha.
2. All shades of MAPLE, WALNUT, MAHOGANY, and SWEDISH MODERN.
3. Fast to Light, non-bleeding colors. May be striped or stenciled over if desired.
4. May be brushed, dipped or sprayed.
5. May be coated with sealing coat in one hour.
6. And have the lowest unit cost of any pigment stains on the market.

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Metal Lacquers
Silver Lacquers
Textile Lacquers
Maintenance Paints
Automotive Finishes
Machine Tool Finishes

The Emblem of Quality in Finishes

The above list is by no means complete, but we trust it will serve to give you an idea of the extent to which WALKER'S chemical staff has solved problems submitted to it.

H. V. WALKER CO.
ELIZABETH, NEW JERSEY

FINISHES
To Fit the Product

New England Warehouse
BROWN & DEAN CO., Providence, R. I.

we know of, that does considerable veneering with several different kinds of fine hardwood face veneers, makes it a practice of gluing their 5-ply work in two operations, using casein glue for both the cross-banding and the face veneers. The glue is brushed on the core heavily and then the excess is scraped off with a fine tooth hand miter saw, drawing the toothed blade crosswise and leaving the appearance of the glue having been combed. This method is also used for spreading the casein glue on the cross-banded core to which the face veneers are applied.

If a good glue is properly used, the veneer should hold tightly, even though the cross-banded core shrinks or swells slightly due to changes in the atmosphere conditions, after the furniture is in service.

We see nothing in your finishing operations to cause this loosening or swelling of the face veneers at the joints. Water staining and water rubbing (if you do water rubbing) should not loosen the veneers if they are well glued with waterproof casein glue—although these wet applications will cause poorly glued veneers to loosen at the joints, and possibly elsewhere also.

You might check on the moisture content of your core stock, cross-banding and veneers before they are glued together. Their moisture content should be somewhere around 6%. It is possible that if the core and cross-banding greatly exceeded this percentage, and if the veneer was 6% or even drier, the trouble you complain of might occur later when the cross-banded core became more dry and shrunk somewhat.

Checks in Finished Fir Plywood

We are beginning to manufacture a novelty lawn table on which we will use a ⅜-in. plywood top made of fir. Our method of manufacture is as follows: The tops are cut in designs approximately 12-in. in diameter. They are then put on a bed sander and thoroughly smoothed. The edges are sanded across the grain.

The finish begins with a spray application of nationally known lacquer sealer. After this has dried, an "Hour-Coat" green lacquer enamel is sprayed on . . . . one coat. On most tables this gives a highly satisfactory finish —good coverage, quality and depth. However, on a certain percent of the fir plywood, this finish shows small cracks which cannot be filled with a further application of either sealer or enamel. These cracks are inherent in the plywood and are not the fault of the paint. It is only after the application of the sealer that any evidence of cracking can be detected. The cracks appear to be in the white portion of the top layer of the fir plywood and penetrate longitudinally with the grain of this layer almost through the top layer. Is this cracking due to bad manufacturing of the plywood, or is it due to improper handling of the plywood after its receipt?

We should like to continue to use fir plywood instead of gum, and will do so if this trouble can be overcome. This cracking is quite persistent and remains after several applications of the "Hour-Coat" enamel. It cannot be sanded out. Additional coats of the sealer do not have any remedial effect.

Put that Striking Finish On!

A Striking Finish of

CLAREMONT FLOCKS

COTTON - WOOL RAYON

will add the finish that attracts attention to any article — and makes it sell.

Easily applied and at low cost — by spray gun or screen stencil, on

SIGNS
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COMPACTS
WIRE PRODUCTS

— for the best results use the best Flocks made.

Write for Samples.

CLAREMONT WASTE MFG. CO.
CLAREMONT, N. H.

The country's largest manufacturers

What causes these cracks and how can they be prevented? More important, how may we attain a satisfactory finish after having commenced to finish this wood? Would paste wood filler be effective? If so, please describe its application.—C. C. Co.

When veneer, plywood or solid wood checks or cracks on the surface, it is a sure sign that only surface drying has taken place, shrinkage has occurred and, because the interior wouldn't shrink with the outer surface, the strain or stress has caused the surface checks. Of course, since the center core of your plywood lies crosswise of the outer plies, this means that it would have to shrink lengthwise (which it will not do) to go with the sidewise or width shrinkage of the outer plies. In their effort to shrink or become narrow (but being held full width by the unyielding center core) the outer plies check or open slightly at numerous weak places. In other words, the grain of the wood splits at the surface when it dries and shrinks.

The veneers may not have been thoroughly dried when they were glued together to make the plywood, or they may have swelled excessively because of the wet glue—or they may have swelled later due to excessive moisture or humidity in the air during storage or in transit. Then, when they eventually dried, this surface checking occurred.

Our suggestion is that you carefully stack the plywood tops with cross sticks between each layer and allow them to dry thoroughly before sealing and painting them—that is, unless you feel sure they are already dry enough. Then, if any checks develop, you can fill them with a suitable wood crack filler, and follow with your sealer coat and finishing coat.

Here is another suggestion: Inasmuch as these fine cracks and checks are so difficut to detect in the surface of the bare wood, and since you are finishing the tops in a color coat, we suggest that instead of using a clear sealer coat, you first spray the surface of the plywood with a white flat lacquer undercoat. Let this dry a little longer than usual; then the checks, if any are present, will show up more clearly so you can easily see them. Fill these checks or cracks by "knifing in"

LACQUER HEATER

Heats ample supply of lacquer (as it is sprayed) for continuous operation. Automatically maintains even temperature. Built of solid copper on Thermos cooker principle, resulting in very low current consumption. Operates on 110-120 volt A. C. Requires no special wiring. Shipping weight 45 lbs. Ideal for demonstrations.

LIBERTY ELECTRIC COMPANY
INDIANAPOLIS, INDIANA

a heavy white lacquer undercoat —the same kind of material that you sprayed on, but of much heavier consistency so it can be applied with a wide putty knife. Allow this "knifed-in filler" to dry; then sand the surface to smooth it, and follow by spraying on your color coat of green lacquer enamel. This schedule of operations should produce a satisfactory job of finishing and leave no trace of the fine cracks or checks showing on the surface. —EDITOR.

Treating Cracked Veneers on Tops

We have just received a question and two answers under the above title, on page 56 of the April, 1939 issue of your magazine, with reference to refinishing table tops because of cracked and checked veneers, due to lack of treatment of veneers before gluing them to the core. Whenever this trouble occurs in furniture factories we recommend the following treatment:

After the finish has been removed to the bare wood, the article of furniture is placed in a warm dry room for several days and allowed to check as much as possible. Then the surface is sized with Liquafill Glue-Life No. 24 Sizing, and allowed to dry for one hour. Then the sized surface is waterproofed with Coagulant No. 30, by spraying or brushing. Both are dried for two hours and sanded smooth with No. 6/0 sandpaper.

The checks and cracks are sealed and waterproofed by this method, and finishing can be performed in the regular manner.

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We offer to all industries equipped for baking finishes this highly perfected, heat-converting, synthetic enamel.

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We have combined to an optimum degree the necessary qualities of tremendous hardness, great adhesion, smooth lustrous gloss, and freedom from haze, discoloration and wrinkling.

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Baking schedule is of great flexibility, permitting from 5-50 minutes at 250-375° F.

FORM-A-ROC

No matter which of the present worthy finishes of this type you may be using or planning to use we sincerely recommend that you investigate

FORM-A-ROC

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THE VARNISH PRODUCTS CO.

5208 Harvard Avenue

CLEVELAND, O.

Our customers are using this method daily on regular production, on new work, where panels contain much end-grain veneer and present a problem in finishing. The method has been in use since 1930, and is particularly recommended on difficult finishing problems. — THE LIQAFILL MFG. CO.

White Pickled Finish on Birch

REFERRING to a question and two answers, published under the above title in January, 1939 issue, pages 72, 73, 74 and 76, I would like to add the following:

You can go about this as you would in antiquing or glazing a piece of painted furniture. After you have stained or prepared your wood and have given the surface one or two coats of lacquer sealer or shellac (whichever you prefer to use) rub it down and wipe it clean. Then apply the white glaze. Don't attempt to apply the glaze on bare wood, as you will be unable to blend it properly, and you would get a "painted" effect.

I would take soft paste white lead and mix it with turpentine or lead mixing oil. If turpentine is used, a small amount of linseed oil and white drier should be added. This should be thoroughly mixed and thinned according to how you wish to glaze the work.

Do not attempt to coat too much surface at a time, as the glaze will set and begin to dry before you are ready to wipe it. Of course, you must let it set a short time so as to avoid wiping it all off. For wiping I suggest a wad of lint-free cloth. Wipe the treated surface with the grain. This way you can get a streaked effect—or coat a small amount of work at a time and use the wad of cloth to blend it as soon as coated. This will produce a stippled effect. I suggest a little experimenting in connection with this work.—J. K. COOPER.

HIGH VALUE LOW COST
CROWN "22"
sets new value standard in a full size production gun with complete Fan and Fluid Control. Quart Container Assembly, etc., $22.00 as illustrated.

CROWN SPRAY GUN MFG. CO. LOS ANGELES, CALIF.
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RADIANT ENERGY DRYING
NALCO DRITHERM
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CARBON LAMPS
Cut drying costs . . . Save time . . . Use minimum space . . . Get uniform results.
Write for information and prices today.
North American Elec. Lamp Co.
1030 Tyler Street St. Louis, Mo.

New Wood Preservative

Development of "Santophen 20," technically described as pentachlorophenol, for preservation of wood, is announced by the research laboratories of Monsanto Chemical Co., St. Louis, Mo., following years of research to find something that will enable the lumber industry to meet new competition developing from other types of construction materials. Tests indicate that "Santophen 20" will protect wood against degrading agents, such as decay and termites. It is free from objectionable color and odor.

Letters From I. F. Readers

(Continued from page 8)

wood finishes, and we assume that these requests were prompted by this article which, we understand, discusses school furniture brown finishes on different kinds of wood and states that our organization furnishes these samples.—National School Supplies & Equipment Assn.

We have recently received a number of requests for copies of Simplified Practice Recommendation R111-30, Color for School Furniture, and these requests refer to an article in the April, 1939 issue of INDUSTRIAL FINISHING.

You will recall that on March 9, 1939, you wrote us for a copy of this recommendation, saying that you wished to refer to it in an article on finishing school furniture. It will be appreciated if you will send us a reprint of this article for our files. —U. S. Dept. of Commerce. (National Bureau of Standards).

Stain Remover

Will you kindly furnish us the names and addresses of firms that manufacture or sell stain remover, as mentioned in your magazine?—D. C. Co. (Office and Store Fixtures).

Coloring Steel by Chemicals

Are you in a position to advise us where we can secure some information regarding modern methods of finishing iron and steel parts by means of chemical solutions? What we have in mind is a dark finish on steel parts, both protective and decorative, preferably a dark color.—C. C. Co. (Machinery).

Formulas for this process are given in the new 1939, Vol. IV, of "The Chemical Formulary," a 600-page book which we sell for only $6.00—ED.

Termite Preventative

Would you kindly advise us the manufacturer of "Atlas A," a preventive against termites?—S. G. Co. (Organ Mfg.).

According to a directory we have, this material is a product of Atlas Preservative Co. of America, Inc., New York, N. Y. No street address is given in this directory. In case

SUNBRITE
BRONZE POWDERS
CHROMIUM
ALUMINUM PAINTS
ALUMINUM PASTES
ALUMINUM POWDERS

All grades and fineneses.
Special colors made to order.

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The Modern Spray Gun

Fully enclosed chassis. Feather-touch trigger . . Automatic needle release . . Exclusive straight-line valve action . . Anti-friction spray head . . Easily handled . . Simply adjusted . . Quickly, easily cleaned . . Reduces material waste . . Light, but rugged.

A. SHELBURNE COMPANY
739 SERES AVENUE, LOS ANGELES
★ Complete Automotive and Industrial Spray Equipment ★

you are unable to communicate with this concern, we are sending you the names and addresses of a few other companies who are listed as manufacturers of wood preservatives.—ED.

Briar Pipe Finish

Can you furnish us with sources of supply for finishing products used on briarwood smoking pipes?—M. L. Co. (Honey Toasted Briar Pipes).

We notice in April 1939 issue, in the letters from readers (page 8) that the manufacturer of the Cahow Dry Pipe wishes to locate a source of lacquer finish for briar pipes. Some little time ago, we developed what we consider a most satisfactory lacquer for this purpose and would appreciate it very much if you would advise us the address of these people, so that we can get in touch with them direct.—Chemical Products Corp.

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SOLVENTS & THINNERS
from . Sludge . Waste . Wash . Spoiled Lacquers, etc.
Each customer's shipment, whether one drum or a carload receives PROPER and SEPARATE TREATMENT. Write to:—
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"USED FIRST, MAKES YOUR PAINT FINISH LAST"
Provides a firm, lasting bond between metal and paint.
Use Metalprep to clean and prepare all sheet metal surfaces before painting. Removes rust and grease.
Write for Literature Today
Neilson Chemical Co.
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Metal Cleaner

In reference to your article on page 18, of the February issue of INDUSTRIAL FINISHING, please send me the name of the manufacturer who is marketing the phosphoric-acid base metal cleaner, as we are very much interested in same.—P. M. Co. (Hand Bag Frames).

This metal cleaner is advertised in INDUSTRIAL FINISHING. We are sending you the name and address in our letter.—ED.

Chemical Tank Liner; Paper Lacquer

There is a material bearing the trade name of Bitumastic which is used in Hollywood studios for painting the insides of chemical tanks used in processing films. Can you tell us who manufactures this material?

Also, I have seen several references to a clear material for coating photographs, documents, printed matter and similar work, where a transparent material is required to protect the paper against dirt and water-spotting. We want to purchase some of these two materials. Also, something to stick photographs to sheet steel before coating.—S. C. S

"Bitumastic" is the copyrighted trade mark of material made and sold by Wailes-Dove-Hermiston Corp., 17 E. Battery Place, New York, N. Y.

Clear coating for use on photographs and paper can be supplied by a number of manufacturers, among them being several that advertise in INDUSTRIAL FINISHING. We are submitting their names and addresses by letter.

For a suitable adhesive to make photographs adhere to steel surfaces, we suggest that you investigate a product manufactured by Eastman Kodak Co. You might also do some experimenting with shellac, quick-drying varnish and lacquer. —ED.

Electric Sander

On page 46, in your February 1939 issue, a new type of electric sander is shown. We ask you to kindly put us in touch with the manufacturer of this machine.—S. T. A. (Stockholm, Sweden).

Kindly forward us the name and address of the manufacturer of the

new type sander shown on page 46 of your February, 1939 issue.—R. B. & Son (Wood, Metalcraft and Finishing).

The Gyro Electric Sander, illustrated and briefly described on page 46, in February, 1939 issue of INDUSTRIAL FINISHING, is manufactured and sold by the Sterling Products Co., 2457 Woodward Ave., Detroit, Mich.—ED.

Grained Transfers

We note in your April issue of INDUSTRIAL FINISHING that you have furnished to an inquirer a list of the manufacturers of grained transfers, this information appearing on page 5. We would appreciate it if you would also let us have such a list. —M. A. Inc.

Information has been given.—ED.

Striping Tools

Will you please give us the names of the manufacturers of the mechanical stripers featured on pages 55 and 74 of February issue of INDUSTRIAL FINISHING? — K. N. Co. (Merchandising Displays).

In their order of appearance in the magazine. the striping tools illustrated are manufactured and sold by the following concerns: Beugler Mfg. Co., 4318 W. 2nd St., Los Angeles, Calif.; Paasche Airbrush Co., 1917 Diversey Parkway, Chicago, Ill.; The DeVilbiss Co., Toledo, Ohio; Binks Mfg. Co., 3114 Carroll Ave., Chicago, Ill.

Oil Abrade; Abrasol

Please inform us who makes "Oil Abrade" and "Abrasol," as mentioned in April, 1939 issue of INDUSTRIAL FINISHING, page 54.—G. Mfg. Co.

"Oil Abrade" can be obtained from M. L. Campbell Co., 708 E. 19th, Kansas City, Mo. "Abrasol" is a product of Star Chemical Co., 2531 S. Crawford Ave., Chicago, Ill. —ED.

Crack Filler

We notice in February, 1939 issue of INDUSTRIAL FINISHING, page 5, that one of your readers inquires about a wood crack filler. Also, that you sent the inquirer the names of

"MAGIC" TACK RAGS
IMPROVE YOUR FINISH 100%

MAGIC TACK RAGS remove specks, lint and sand particles— bring out that deep, smooth luster, produce a faultless surface for white or colored finish. Why use "home made" tack rags when you can buy MAGIC TACK RAGS at trifling cost! They are tackier, do not dry— are dust-proof and spontaneous combustion proof. Packed in dozen and gross lots or more. Made only by the

Wm. A. Juergens Co.
4036-40 Lagrange Street,
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If your dealer does not carry Magic Tack Rags, write us for sample.

GRAINING PLATES
bring out the
QUALITY *you*
have built in
YOUR PRODUCT

AMERICAN
ELECTROTYPE COMPANY
104 E. MASON ST.
MILWAUKEE, WIS.

several manufacturers of such filler. We will appreciate it if you will give us the names of these manufacturers, for we have much the same requirement.—I. O. Co. (Burial Caskets).

I am interested in a crack filler for oak wood as mentioned by Mr. R. E. Casey in April, 1939 issue of INDUSTRIAL FINISHING, page 16. Will you please send me the name and address of the firm that makes it?—C. H. E.

Names have been given.—ED.

Pyrax Filler

Who makes Pyrax type filler?—E. & G. Co.

Lilly Varnish Co., Indianapolis, Ind.—Ed.

Pearl Essence

Kindly send us a list of manufacturers who make pearl essence lacquers.—R. S. Co. (Paints, Lacquers and synthetics).

We would like all information possible as to material, etc., pertaining to a pearl finish.—H. K. Co.

Names have been given.—ED.

Hot Lacquer

In the April issue of INDUSTRIAL FINISHING, we are very much interested in the article bearing the title "Applying Lacquers Hot." This article is on page 66. Will you please supply us with the names and addresses of the manufacturers of this equipment.—X. Mfg. Co. (Store Equipment).

See feature article on the subject in this issue. Other information is being sent you in a letter.—ED.

Graining Machine

We were interested to see an illustration of a graining machine in February issue of INDUSTRIAL FINISHING. Would you kindly pass forward this inquiry to your contributor, asking them if they would kindly send us full particulars of the uses of this machine, its cost, cubic tonnage when packed, with photographs of the machine itself and samples of the work?

We understand that this machine is useful in graining flat sheets of metal, plywood and composition board, and we may be able to introduce its use to industry in Australia.—A. D. Corp., Sydney, N. S. W., Australia.

In your February issue, page 66, there is an illustration and article on a graining machine. We would appreciate if you would ask the manufacturer of this machine to send us full particulars.—L. L. (Maidsaver Kitchen Cabinets) London, England.

The name and address of this manufacturer and several others have been given in replying to these foreign inquiries.—ED.

Solvent Recovery

Will you kindly give me the dope on stills for reclaiming petroleum solvents—who manufacture them and their address? I notice the article in your May, 1938 issue, page 26, by A. White of Barnstead Still & Sterilizer Co., but am unable to locate their address.—R. E. F.

The company's address is 6 Lanesville Terrace, Forest Hills, Boston, Mass.—ED.

On page 61 of the April, 1939 INDUSTRIAL FINISHING, you mention solvent recovery stills for cleaning thinners. We are interested in such equipment for cleaning dirty toluol, and would appreciate it if you would send us names and addresses of manufacturers of this equipment.—A. V. Co. (Varnish Mfg.).

Would you kindly advise us if there is a company in Indianapolis or vicinity who make a business of re-distilling thinners? We have in mind having a material known as Solvesso No. 2, used for cleaning sheet metal, re-claimed for future use. We will appreciate hearing from you.—L. Mfg. Co. (Display Fixtures).

Strainer for Spray Guns

We notice the article on page 39 of February, 1939 issue of INDUSTRIAL FINISHING, describing and illustrating a material strainer for spray guns. Can you give us the name of the manufacturer of this part?—U. D. Mfg. Co.

It is Binks Mfg. Co., Chicago, Ill. —ED.

Industrial FINISHING

Distributed to Executives and Foremen Finishers in industrial plants where finishing coats are applied with finishing equipment.

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EDITORIAL

Preview of Furniture Styles and Finishes

According to the Style Preview News prepared by Rosalie Flank and sent out from The American Furniture Mart, Chicago, Ill., where the Summer Market will be held June 5 to 17, the trend is to a modified and combined Swedish Modern-18th Century, called by some a new "American"; by others "Contemporary." Here is a style which fits in gracefully with both periods, lending itself with equal dignity to either light or dark finishes.

An evolved "Contemporary French" style will be shown. Stripped of its gilding, elaborate carving and marquetry, it is presented in popular cabinet woods in natural and bleached tones, with demure carvings its only decoration and just the general contour of the frame left to remind the observer of its French origin.

In finishes, the padded and aged finishes on traditional pieces and browned tones on light modern pieces are the anticipated general trend. Oak promises some surprises but the new finishes looked for will affect only the one wood. Natural wood tones will probably continue to be favorites in the finish line-up, manufacturers having devoted their time to improving accepted finishes rather than creating something startlingly new, as was the case several seasons ago.

New upholstery fabrics, it is rumored, will be the oustanding hit of the show. Colors are expected to trend toward rich pastels in fruit and flower tones—lime tree greens, apricot, melon tones, cornflower blues and shades of fuchsia presenting a rainbow of exciting colors planned to soften the heart of the most hardened observer. Beige is a new basic tone, which bears close watch in the style color palette. Leather in the same rich pastel tones of the soft fabrics looms as an important factor also.

Considerable pioneering is anticipated among the manufacturers of occasional furniture, with many new ideas in the way of advance styling to be presented in tables and novelties of all varieties. Large coffee and cocktail tables will dwarf former accepted

models. Rectangular and round tables will replace the oval models of the past several years.

Something new is expected in every division of the industry. Designers in all lines promise a market packed with new suggestions and ideas.

Laboratory Service and Technical Information

Leading manufacturers of equipment, supplies and materials used in product finishing have great stores of practical information which are available to concerns that have finishing departments. These remarkable sources of information can be and should be utilized by more companies that do finishing. It is never harmful to get early information about better equipment, improved materials and more efficient, more economical methods—although it may be costly to learn of these things when it is too late.

The manufacturer of a centrifugal whirling machine used for coating small parts, says in one of his bulletins:

> The resources of our laboratory, with data accumulated from a large quantity of carefully observed routine experimental work, are available. Close individual attention is given to proposed applications, until it is quite apparent whether the work to be done falls into a new classification or under a heading of one previously studied. In the latter instance, data already assembled becomes immediately available.
>
> It is frequently advantageous to employ our scientific assistance in the development of radically new methods, or to evolve the practical technique required in special service. For demonstration it is our practice to process representative items in our laboratory, in a small machine.
>
> It is preferred that four gallons of the material desired to be used for finishing will accompany articles that are sent in for experimental processing. In the majority of cases, such small tests are entirely adequate and dependable. Should it be found necessary to make a full scale run, 30 gallons of material is needed. A complete engineering report, with the recommendation for the equipment necessary to meet the requirement, is rendered in each case when a specified daily production is given. From this report, comparative costs may be estimated. There is no laboratory charge for routine experiments and reports. Investigations and constructive experimentation in the development of formulas, materials, etc., are charged for at a reasonable flat hourly rate.

Representative manufacturers of all other types of finishing equipment, accessories and finishing materials are in position to give similar service. Their experience and service covers a great variety of problems, some of which are probably similar, if not identical, to yours.

Is Your Product A Wallflower?

A concern that sells finishing materials asks the above timely question in a piece of advertising literature. It is a question of vital importance to practically every manufacturer of products that are sold through retail outlets where competitive articles are on display.

"It's discouraging, but true, that even the finest product will be ignored because customers can't 'see' it. A product may be finely constructed, mechanically perfect and the most useful thing imaginable—and still be a veritable wallflower, while an inferior, competitive product waltzes away with Sales, because it presents a pleasing, attractive appearance."

We believe that most companies now appreciate the value of having an attractive durable fin-

ish on their products. The question that concerns them is not, "Shall we put on an attractive finish?", but rather, "Which of the numerous variety of available attractive finishes shall we select for our product?" Manufacturers of finishing materials are prepared to give prompt and practical assistance on all problems of this kind. In many cases they take full size or miniature models of products sent in by customers or prospective customers, finish these in several suggested color schemes, including attractive decorative effects, and return them to the sender for inspection and approval.

The company whose advertising message is quoted above, adds: "We offer you our services as skilled protectors and beautifiers of industrial products. Let use help you choose a new 'dress'; one that will be immediately attractive to the roving eyes of the buyers. We know the secret of doing it well and intelligently, yet with economy—even though your demands be modest."

Flow Meters to Measure Piped Liquids

Inasmuch as several concerns using finishing materials have asked for an instrument to accurately measure the quantity of finishing material passing through a pipe line or hose per minute, per hour or per job, we believe it will be of interest to the trade in general to know that such meters are practical and available. Excerpts from the flow meter section of one manufacturer's meter catalog reveal the following interesting facts:

The roller coater method of operation is becoming more and more a standard process of finish application. Its advantages for some kinds of work, over other finishing methods, are being recognized by large numbers of manufacturers. For example, one large manufacturer installed a roller coating machine in 1936. They installed two more in 1937, and a fourth one in 1938. They have signified their intentions of installing two more machines in 1939.

The inferential type meter has become the outstanding measuring device for liquid flow through pipe lines. One of the important reasons for the popularity and extensive use of the inferential float-type meter lies in its flexibility. It can be successfully used with an orifice plate, a flow nozzle, a Pitot tube, or a Venturi tube. This interchangeability is of great value in daily service.

The same instrument may be used to measure the flow of 10 or 10,000 gallons per minute at a pressure of 5 or 500-lbs. per square inch. Another reason lies in the simple fact that the instrument is so designed that the operating part of the meter mechanism need not come in contact with the liquid being measured. Liquids which for one reason or another have hitherto defied accurate measurement may now be measured as easily, correctly and safely as water.

Leaks, inefficient equipment, and sheer waste will be revealed and corrected, and thus greater economies can be made possible. To know the facts supplied by the flow meter is to be in a position where definite control can be exercised, definite savings effect-

ed, and definite standards for future guidance established. Behind the designing and building of these meters lie many crowded years of experience in flow measurement problems and in the making of high-quality instruments. This experience is wholly at your service; and whatever your special problems may be, the flow-meter manufacturer's engineers will be glad to help you solve them.

Artist Paints Pictures With Spray Gun

In connection with the Binks Mfg. Co.'s advertising and sales promotion work, including exhibits at trade and industrial shows in various localities, Mr. R. L. deGayner uses standard production spray guns to paint landscapes and marine pictures. The artist's unusual technique is employed to quickly arrest and hold the attention of crowds—and to show the exact control of the large production spray guns which he uses to paint pictures in from five to seven minutes.

All paintings are done without sketch or stencil, from an image only in the artist's mind. DeGayner has trained himself in the skillful touch necessary to control the spray of a powerful gun for detail purposes. He has trained his eye to gauge distances for the spray to produce artistic results. The combination of his artistic skill—he was a commercial artist—with the mechanical speed of the kind of spray gun used in production finishing, blends to produce pictures that rival many hand-painted oils. He can produce a picture in five minutes, but sometimes he spends an hour to produce an unusually good picture involving more or less intricate detail.

The artist, one of his ship pictures, and his array of 10 production spray guns, each fitted with a separate color cup.

New Wrinkle Appoints Technical Research Director

New Wrinkle, Inc., Dayton, Ohio, announces the appointment of William A. Waldie as Technical Research Director of its recently organized Technical Service Department. Since graduating as a chemist from Harvard in 1908, he has been associated with several paint, varnish and lacquer manufacturers in the capacity of paint chemist, manufacturing superintendent and technical director. Mr. Waldie will be available to the licensees of New Wrinkle, Inc., to render a personal service. In this capacity he will cooperate on formulas and their application—in the licensee manufacturer's laboratory—and in the user's product finishing department.

New Bonderizing Book

A modern rustproofing treatment for metal surfaces, preparatory to finishing, is clearly explained and attractively illustrated in a new 40-page Bonderizing book, published by Parker Rust Proof Co., 2177 E. Milwaukee Ave., Detroit, Mich. Pages of heavy coated paper 8½x11-in. are decorated with color bands of light blue. The charted results of many tests are illustrated to show the effectiveness of bonderizing as a rust-preventative. Typical Bonderizing installations are illustrated in production in various manufacturing establishments. This interesting and informative book should be in the reference library of every concern manufacturing products that are made partly or entirely of iron or steel.

Rudd Lacquer & Sealer Corp. Moves to New Offices

The Rudd Lacquer & Sealer Corp., makers of the Noroy "Utility Line" of gloss and flat lacquers, and The Mac-Lac Co. Inc., have moved to new offices at 127 Maiden Lane, New York, N. Y. Telephone is WHitehall 2-5230.

Classified Advertising

Rate: 45 cents per line per insertion—minimum $1.35

POSITION WANTED

By finishing foreman, wood experienced 20 years on large production. Can handle men and estimate costs. Good reference. Address IF-742, care Industrial Finishing.

EXECUTIVE POSITION WANTED

By a man with fifteen years' experience in Financing, Accounting and Cost Systems, Credits and Collections, Sales Service Correspondence, Corporation Taxes. Address IF-738, care Industrial Finishing.

INDUSTRIAL AND WOOD FINISHING SALESMAN

Experienced wood and industrial sales with following in Penna. and southern N. Y. territory, wishes connection with reliable manufacturer of diversified line. References from previous connection. Address IF-741, care Industrial Finishing.

PLANT MANAGER WANTED

Medium size plant in northern town of 8,000, employing 200 men. Must be experienced in quantity production, furniture, cabinets and novelties. Thorough knowledge woodworking machinery, scheduling production, purchasing, time study, estimating, designing, assembling and finishing. Only man with ability to take complete charge and with previous successful plant management record acceptable. State age, references, salary expected and experience in detail in first letter.

Payroll Clerk and Time Study Man also required.

Address IF-740, care Industrial Finishing.

INDUSTRIAL SALESMAN WANTED

Illinois, also Iowa and Missouri. Experience essential. Have fine opportunity for right man, preferably under forty-five. Give full particulars regarding experience, and acquaintance in territory. Address IF-744, care Industrial Finishing.

WILL INVEST IN

Or buy out-right a finishing-material manufacturing company doing approximately $100,000 business. Address IF-735, care Industrial Finishing.

MANUFACTURERS AGENT WANTED

To sell complete line Industrial Paints, Varnishes, Lacquers, Enamel, etc. Reply, giving experience and what lines you are now selling. Address IF-743, care Industrial Finishing.

MOLDED RUBBER PARTS

Manufactured to your specifications. ANCHOR RUBBER MFG. CO., 223 W. Illinois st., Chicago, Ill.

FOR SALE.

Smith Dipping Machine, 10 sections, with several tanks included. Cost $600.00; will take $100.00. WARREN N. GRANT CO., Fitzwilliam Depot, N. H.

FOR SALE.

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—highest efficiency at prices can not be equalled. INDUSTRIAL EQUIPMENT CO., 208 N. Wells, Chicago.

Save 40% to 60%

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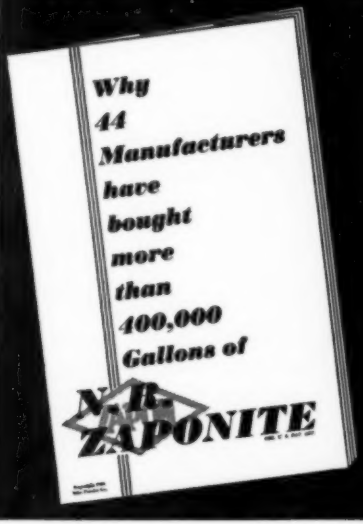

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